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Use policy

Relationship Between Principals' Instructional Leadership
and School Effectiveness. Does It Make a Difference?
Evidence from the Maldives

Ismail Shafeeu

Thesis submitted in partial fulfilment of the qualification of

Doctor of Philosophy in Education

School of Education, Durham University

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Declaration

The work in this thesis is based on research carried out at the Department of

Education, Durham University, England. No part of this thesis has been submitted

elsewhere for any other degree or qualification and it is all my own work unless

referenced to the contrary in the text.

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Abstract

The question why some public schools that educate students with similar capabilities produce very good results while others fail to do so is widely discussed in the education literature. Coleman claimed that schools do little to make a difference in students' academic achievement and that the socioeconomic status and educational level of the family is far more significant than internal school conditions. Despite huge public expenditure on education, students' academic achievement in the lower secondary school completion examination is one of the challenges faced by Maldivian schools. To overcome the issue of low achievement, the Ministry of Education introduced various changes to the education sector. As one key strategy, targets have been set and due recognition is being given to schools that achieve 60 per cent passes in five or more subjects in the secondary school completion examination.

Though inspiring and ambitious, it was anticipated that it would not be easy to achieve the intended policy outcome. Therefore, to overcome the challenges associated with the implementation of this policy, the Educational Supervision and Quality Improvement Division (ESQID) of the Ministry of Education prepared an action plan that identified factors that could be influential in improving pupils' attainment. One of the key factors highlighted for improvement by the Ministry of Education was school leadership. Before this policy, the job of school principals was focused on managing the administrative work of the school. However, with the new policy, principals were required to lead and support the instructional activities of the school much more. This has led principals working in the schools of the

Maldives to switch their job from the more commonly practised administrative role to the academic aspects of the school.

Research in educational leadership and management is important for educational improvement. However, Gorard has stated that the field of educational leadership research is inward-looking and rather unwilling to investigate the real effect of leadership on students' attainment itself. By taking this criticism into account, this study explained the relationship between principals' instructional leadership and students' attainment in the Maldives. In addition to this, the thesis also estimated whether instructional leadership can make a difference in students' achievement in the schools of the Maldives.

The cases used in this study comprise the full population of teachers working in all public secondary schools in the Maldives. This involves 6,047 teachers from 185 schools across the Maldives. A questionnaire was developed based on Hallinger's Principals' Instructional Management Rating Scale (PIMRS) and was administered to gather data about the principals' instructional leadership. Just over 81 per cent of the teachers responded to the survey. Local community background characteristics, prior primary attainment for each school and individual students' secondary school results were obtained from the National Bureau of Statistics and the Ministry of Education.

The results showed that 68 per cent of the teachers reported their principals as demonstrating effective instructional leadership at the school, of the kind that should influence student attainment according to theory. This is so, largely irrespective of the principals' background characteristics such as gender and

experience. The Pearson correlation between students' secondary school attainment and principals' instructional leadership ($r = 0.62$) suggests a reasonably strong link. However, this does not indicate that there is a causal relationship between principals' instructional leadership and students' attainment at secondary level for a number of reasons explained in the thesis, including that leaders may be assessed differently by staff in successful and less successful schools. Therefore, binary logistic regression models were used to assess the extent that leadership could contribute to students' achievement once the student and community backgrounds were considered (including prior attainment). The results of this analysis suggest that students' prior attainment at primary grades, and school context variables such as the employment of the community and the educational level of the community, play a far greater role than principals' instructional leadership in students' secondary school achievement.

The findings of this study re-emphasised the importance of quality primary education and disadvantages in education linked to the socioeconomic status of the school community. Therefore, the Ministry of Education, school leaders and the island authorities should work together to minimise differences in educational outcomes in island communities. Besides this, the Ministry of Education also needs to invest in robust educational research projects to gather evidence of what really works in promoting school effectiveness and social justice in education in the small island setting of the Maldives.

Dedication

In Loving Memory of

my beloved mother, the late Fatimah Muhammad (1942-2007)
and
my beloved father, the late Muhammad Hussain (1931-2009).

Those we love don't go away,

They walk beside us every day,

Unseen, unheard, but always near,

Still loved, still missed and very dear.

(Unknown)

I also dedicate this work to

my beloved wife, Hawwa, and my daughter, Zainab.

Both of you have made me stronger, better and more fulfilled than I could have

ever imagined.

Thank You.

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I would also like to acknowledge my indebtedness and render my warmest appreciation to my supervisor, Professor Stephen Gorard, who made this work possible. His friendly guidance and expert advice have been invaluable throughout all stages of the work.

Also, I would like to express my gratitude to my second supervisor, Dr. Beng Huat See, for extended discussions and valuable suggestions, which have contributed greatly to the improvement of my study.

I also wish to express my gratitude to Durham University, Ustinov College, my family and my friend Dr. Mohamed Muizz for the support and assistance that I have received to complete this study.

I thank my colleagues in the Maldives who helped me to carry out the difficult task of conducting the fieldwork in the Maldives. Among them, I would like to give special thanks and consideration to the President of the Teachers Association, Mr. Athif Abdul Hakeem, my close friend Mr. Abdul Latheef, and the President of the Principals Association of the Maldives, Mr. Ahmed Mohamed, for their support and assistance in conducting the fieldwork in various parts of the Maldives.

Nobody has been more important to me in the pursuit of this project than my beloved wife, Hawwa, and my daughter, Zainab. I wish to thank them for their unending inspiration, love and care during the entire journey of my study.

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Definition of Terms

The following are the definition of some of the key terms used in this study.

Atoll	Chain of islands formed of corals. There are 26 natural atolls in the Maldives. However, for administrative purposes, the country has been divided into 21 administrative divisions (20 administrative atolls and Malé city).
Dhivehi	The native language of the Maldivian people.
Dhasvaaru	A newly introduced internship programme intended to provide vocational training to students who may not be able to succeed in formal education in secondary school in the Maldives. Successful completion of Dhasvaaru is equivalent to 3 IGCSE passes (Ministry of Education, 2016a).
Maldives	The Republic of the Maldives, which is locally referred to as *Dhivehi Raajje*, is an archipelago of about 1,120 islands coral islands formed in the Indian Ocean close to Sri Lanka and India.
Secondary Schools	Schools that provide education from grades 8 to 10. The students in these grades are generally between the ages of 14 and 16 years.

Secondary School Completion Examination

The combination of the two exams that are given to secondary school students in the Maldives. These two exams are the Cambridge International Examination and a local secondary (officially referred to as *Saanavee*) examination to test students' knowledge in the Dhivehi language and Islam.

List of Abbreviations

CFBS	Child-Friendly Baraabaru Standard
ESCS	Economic Social and Cultural Status
ESQID	Education Supervision Quality Improvement Division
HIES	Household Income and Expenditure Survey
ITE	Institute of Teacher Education
MGD	Millennium Development Goals
MDP	Maldivian Democratic Party
MNU	The Maldives National University
NALO	National Assessment of Learning Objectives
NBS	National Bureau of Statistics
NHDR	National Human Development Report
OECD	Organisation for Economic Co-operation and Development
PIMRS	Principals' Instructional Management Rating Scale
PISA	Programme for International Student Assessment
PPM	Progressive Party of the Maldives
PTA	Parent Teacher Association
QAD	Quality Assurance Department

RCT	Randomised Controlled Trials (a powerful experimental research design for causal studies)
SARRC	South Asian Association for Regional Cooperation (SAARC): a regional organisation, whose member states are Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka
SES	Socioeconomic Status
SMT	Senior Management Team
SOP	Standard Operating Procedure
SPSS	Statistical Package for Social Sciences
SSC	Secondary School Certificate
TALIS	*Teaching and Learning International Survey*
TAM	Teachers Association of the Maldives
TVET	Technical and Vocational Education and Training.
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter 1: Introduction

1.1 Background of the Study

The Republic of the Maldives is a small island nation with a total of 1,190 islands, of which 188 are inhabited. The country stretches 823 km north to south and 130 km east to west. The highly scattered nature of the population poses severe challenges for the provision of services, particularly education. Nevertheless, the Maldives has succeeded in achieving the Millennium Development Goal (MDG) of providing universal primary education (Ministry of Planning and National Development, 2005). There are a total of 223 schools that offer formal education in the Maldives. Out of these, 213 schools are government-run public schools (Ministry of Education, 2013). The total number of secondary schools in the Maldives is 189. Among them, only four are private schools.

Since the introduction of formal English-medium schools in the early 1960s, the school system is divided into three broad categories. The first seven grades of schooling provide primary education for pupils between the ages of 7 to 13. The next level is lower secondary education. The three grades (i.e. grades 8–10) at this level aim to provide secondary education for pupils from the age of 14 to 16 years. Grades 11 and 12 are considered as higher secondary education (ages 17–18). One of the most accepted policies in the provision of education is to use a well-recognised international curriculum for secondary-level grades. In this regard, the Maldives has adopted the Cambridge and Edexcel syllabuses for lower secondary and higher secondary respectively.

The facts mentioned above, namely the geographical dispersion of small islands and the use of an international curriculum, has made delivery of education expensive in the Maldives. The government spends a considerable proportion of its annual budget on education. More than 14 per cent of the annual budget was spent on education in 2014 and 2015 (Ministry of Finance and Treasury, 2015).

Despite the massive public expenditure on education, students' academic achievement in the lower secondary school completion examination is far below the target of the Ministry of Education (Ministry of Education, 2010a). Due to the low academic performance of students in the secondary school completion examination, the net enrolment of students in higher secondary school is only 21 per cent (Ministry of Finance and Treasury & UNDP, 2014).

To overcome the issue of low achievement, the Maldivian Democratic Party (MDP) government introduced a policy in 2009 called the 60 per cent pass policy. The intended goal of this policy was to increase pupils' overall pass percentage in five subjects from 32 per cent to 60 per cent by the end of the year 2013. For this purpose, targets were set, and due recognition is being given to schools that achieve 60 per cent of passes in five or more subjects and those which meet a required level of improvement in the pass percentage (Ministry of Education, 2009a). A detailed description of this policy is given in Chapter 2.

1.2 The Significance of This Study

This study emerged due to the introduction of the 60 per cent pass policy to increase the pass rate in the secondary school completion examination. As an essential part of this policy, the Ministry of Education developed an action plan, and attainment

targets were set for each secondary school in the Maldives. Moreover, official letters signed by the Minister of Education were sent to the principals to achieve the goals set by the Ministry of Education. This new policy and its intended outcome were difficult to achieve. This is because the Ministry of Education recognised that without collective effort from the stakeholders it would not be possible to achieve the goals of this policy (Ministry of Education, 2010a). Moreover, many principals were critical of the implementation process of this policy. To counter various concerns from principals and teachers, the Ministry of Education announced that they were changing the role of principals from school administrators to that of *instructional leaders*. It was perceived that with this change, principals would take a more active role in the instructional process of the school. To cater to this new change, the ministry introduced a new post called the *school administrator*. It was believed that the school administrator would manage the day-to-day administrative tasks of the school so that principals could increase their involvement in the instructional activities of the school. All these changes were carried out based on the assumption that strong instructional leadership could help to raise pupils' attainment outcomes.

However, many educators were critical of various unintended outcomes that might be associated with this policy. It was predicted that, to demonstrate the success of this policy, academically weak students might be excluded from taking part in the secondary school completion examination. By doing this, the Ministry of Education could claim that they had achieved the desired outcome of this policy (Shafeeu, Shahma, Moosa, Musthafa, & Imran, 2011). Moreover, there was fear among some teachers and principals that this policy could be used as a political tool to show the

success of the newly elected MDP government. Therefore, this new policy and various policy decisions related to it opened new avenues for research in the educational field in the Maldives. It is evident that the implementation of this policy put significant pressure on principals to achieve the targets assigned by the Ministry of Education. The question, therefore, is whether the type of leadership provided by principals could make a difference in promoting students' attainment in the secondary school completion examination.

Research in educational leadership and management is essential for educational improvement. However, Gorard (2005) had stated that the field of educational leadership research is inward-looking and somewhat unwilling to investigate the real effect of leadership on students' attainment. By taking this criticism into account, this study is designed to find out the relationship between principals' instructional leadership and students' attainment in the Maldives. In addition to this, the study will also determine whether instructional leadership can make a difference in individual pupils' academic attainment in the secondary school completion examination in the Maldives.

1.3 Research Questions

By taking instructional leadership and school effectiveness as critical areas of focus, the following are the primary research objectives of this study.

1. To determine the level of principals' instructional leadership practices in schools in the Maldives as identified by the Principals' Instructional Management Rating Scale (PIMRS).

2. To determine the level of existence of effective school characteristics in schools of the Maldives.

3. To establish whether there is any relationship between principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives.

4. To investigate the extent to which instructional leadership can contribute to differences in individual pupils' academic attainment in the Maldives.

The first two objectives of this study will be examined by using a cross-sectional survey questionnaire. This survey will be used to explore teachers' perception of their principal's ability to demonstrate instructional leadership and the presence of effective school characteristics in their school. Results obtained from the teachers' responses will be used to check whether there is any relationship between the principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. As one of the primary research objectives, the study will also investigate whether instructional leadership could contribute to school effectiveness in the Maldives. For this purpose, students' secondary school attainment will be used as an indicator of school effectiveness.

The specific research questions used to address the objectives above are as follows:

1. What is the level of the principals' instructional leadership practices in the schools in the Maldives as identified by PIMRS?

2. What is the level of existence of effective schools' correlates in the schools of the Maldives?

3. What is the relationship between the principals' instructional leadership and the existence of effective school correlates in secondary schools in the Maldives?

4. To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?

1.4 Overview of the Study Design and Methods

Implementation of the 60 per cent pass policy demanded more involvement of the principal in the instructional processes of the school. The policymakers in the Ministry of Education predicted that changing the principal's role to that of an instructional leader and holding them accountable would improve the attainment of students. This study will use the following approach to investigate whether principals are the primary factor in educational attainment (i.e. *school effectiveness*). For this purpose, a questionnaire was developed based on Hallinger's (1990) Principals Instructional Management Rating Scale and effective school characteristics defined by Lezotte (1991) to collect data for this study. Table 1.1 gives an overview of the types of data used in each of the research questions.

Table 1.1: Research Questions and Type of Data Used in Each of the Research Questions

No.	Research Question	Data
1	What is the level of the principal's instructional leadership practices in the schools in the Maldives as identified by PIMRS?	• Survey data related to principals' instructional leadership

No.	Research Question	Data
2	What is the level of existence of effective schools' correlates in schools of the Maldives?	• Survey data related to effective school correlates
3	What is the relationship between the principal's instructional leadership and the existence of effective school correlates in secondary schools in the Maldives?	• Survey data related to principals' instructional leadership and effective school correlates
4	To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?	• Survey data related to principals' instructional leadership and effective school correlates • Longitudinal data of pupils' attainment at both primary and secondary level, age and gender • Teacher experience and qualification • Income and employment rate of the school community

The above data will be used in various statistical analyses to find answers to the research questions of this study. The findings and discussions related to each research question are presented in separate chapters. A more detailed account of the research design and methods used for data collection and analysis are described in Chapter 4.

1.5 The Scope of the Study and Limitations

This part of the chapter outlines the scope and purpose of conducting this study. The main purpose of this study is to explore the contribution of instructional leadership in improving the educational effectiveness of secondary schools in the Maldives. When designing this study, I was keen to explore whether principals' ability to demonstrate instructional leadership might play a vital role in achieving the academic targets set under the 60 per cent pass policy. To achieve this objective, a survey was conducted in all the secondary schools managed by the Ministry of Education. This is the first nationwide research that explored principals' leadership and school effectiveness in the Maldives. In addition to this, the extent of longitudinal data related to students' attainment at both primary and secondary levels was a new research approach in the Maldives to discover educational effectiveness.

The original intention was to include data on individual students' family background and socioeconomic status (SES) in the study. However, this was not possible because of the unavailability of data from the National Bureau of Statistics. If this data had been received, it would have provided a more accurate picture of the influence of students' families and socioeconomic levels on their academic success. Furthermore, this could have provided an opportunity to address the role of individual parental income and education level in the education of students in the Maldives.

1.6 Structure of the Thesis

This study has nine chapters. These chapters are divided into five main parts. They are:

Part 1: Chapters 1 and 2 *(Introduction and context of the study)*

Part 2: Chapter 3 *(Literature review)*

Part 3: Chapter 4 (*Research design and methods*)

Part 4: Chapters 5–8 (*Findings and discussions*)

Part 5: Chapter 9 (*Conclusions and implications*)

The first part contains the first two chapters of this study. These chapters describe the background of the study, the problem statement and the setting of this study. In addition to this, the main objectives of the research are also presented in this part of the study.

The second part of the study is about the relevant literature related to principals' instructional leadership and school effectiveness. This chapter provides a historical overview of the rise of the effective school movement followed by various methodological changes that took place in the research on effective schools. After that, the evolution of instructional leadership is described, followed by various instructional leadership models from various authors. The chapter concludes with an overview of existing research on the role of principals' instructional leadership for school effectiveness.

The third part describes the design and methodological decisions taken to conduct this study. In this work, the chapter describes the research design and methods associated with each of the research questions of this study. It also discusses the

development of the data collection instruments and description of the fieldwork conducted for primary data collection. In addition to this, types of secondary data and statistical analysis used in each research question are also explained in this chapter.

The fourth part of this study contains four chapters (i.e. Chapter 5 to Chapter 8). Each of these presents the findings and discussion associated with one of the research questions of the study. Chapter 5 presents the finding and discussion related to Research Question 1. In this chapter, teachers' response to the survey questionnaire is used to uncover the principals' instructional leadership practices in secondary schools in the Maldives. Chapter 6 is about the teachers' perceptions of the existence of effective school characteristics in the Maldives. Chapter 7 is designed to check whether there is a significant relationship between teachers' report on principals' instructional leadership and the existence of effective school characteristics in the Maldives. Chapter 8 is designed to investigate the contribution of instructional leadership to school effectiveness in secondary schools in the Maldives.

The final part of the thesis is about the conclusion and policy implications derived from the research findings of this study. In addition to this, various limitations of the study and possible recommendations for future research are discussed at the end of this study.

Chapter 2: The Setting and Context of the Study

2.1 Introduction

This chapter provides brief background information on the geographical, historical and cultural context of the Maldives. This helps to explain some of the challenges and methods used in the data collection. The chapter also provides a summary of recent educational policy changes that have taken place in the Maldives, mainly concerning the 60 per cent pass policy and its contribution to the promotion of the concept of instructional leadership in the Maldives. The purpose of this is to provide a backdrop for the study and the rationale for undertaking this research.

2.2 The Maldives

The Republic of the Maldives, which is locally referred to as *Dhivehi Raajje*, is an archipelago of about 1,120 coral islands formed in the Indian Ocean close to Sri Lanka and India. The islands are scattered over an area of 3,500 square miles, making the Maldives one of the most geographically dispersed countries in the world (Bonofer, 2017). All the islands are low-lying, and no island is over a metre above sea level (Woodroffe, 2008; Gagain, 2012). Most of the islands are less than one square mile in size. The total land area of the Maldives is only 290 km^2, with the ocean forming over 99 per cent of its territory (Ellis, 2008). A map of the Maldives is included in Appendix A.

There are 26 naturally formed atolls in the Maldives. However, for administrative reasons, the country is divided into 20 atolls. According to the census data of 2014, the population of the Maldives is 338,000, and a total of 188 islands are inhabited

by the local community. The primary income source of the country is from the tourism industry. As a leading tourist destination in the Indian Ocean, there are more than 109 tourist resort islands that have been developed in the Maldives. In addition to this, more than 128 islands are used for industrial purposes by the local community (National Bureau of Statistics, 2016).

2.2.1 The Historical and Cultural Context of the Maldives

The most significant event recorded in the history of the Maldives was the introduction of Islam by an Arab traveller to the King of the Maldives, paving the way for the island nation to accept Islam in 1153 AD. After the embrace of Islam, the country was ruled by dynasties for over 900 years and has been an independent country throughout its entire known history, except for 15 years of occupation by the Portuguese in the 16th century and nearly 3 months under the rule of Malabar in south India in the 18th century (Ahmed, 2011). In addition to this, the country voluntarily became a British protectorate in 1887. During the period of the British protectorate, Britain was mainly involved in dealing with foreign affairs and defence. However, in the late 1950s, there were situations where Britain interfered with the country's internal affairs, which resulted in a failed attempt by the southern four atolls to break away and form a new country (Manik, 1997).

While the Maldives was under the British protectorate, the sultanate was suspended, and the first republic was declared in 1953. However, the republic under the first president was short-lived and lasted for only eight months. After that, the country reinstated the sultanate, with a Prime Minister to run the government. In 1957, then Prime Minister Mr. Ibrahim Nasir initiated the call to review the agreement and

seek independence from Britain. Due to that effort, on 26 July 1965, the Maldives succeeded in gaining political independence from Britain. After that, the sultanate was abolished again, and the country became a republic for the second time in 1968.

After independence in 1965, the country took considerable steps to build the nation. As the very first step in that direction, the Maldives became a member of the United Nations (UN) in 1965 (Lawson, Bertucci, & Forsythe, 1996). With help from the UN and other international organisations, the Maldives revised its educational system, healthcare and economic industries. It is now regarded as a country with one of the highest human development indexes in the South Asian Association for Regional Cooperation (SAARC) region (UNDP, 2017, 2018).

2.3 History of Education in the Maldives

The traditional education system of Maldives aimed to teach the basic writing and reading skills of the local Maldivian language, known as *Dhivehi*, and the Arabic language. The primary purpose of early teaching was intended to educate people about fundamental Islamic principles relating to their daily lives. Moreover, most of this education was conducted in *edhuruge*, *makthab* and *madrasa*. However, there are distinctive characteristics that distinguish *edhuruge* from *makthab* and *madrasa*.

Edhuruge is generally a home-based class, often led by a respected member of the community or the leader of the island's mosque. The primary goal of such classes was to teach how to read the Quran in Arabic. In addition to this, great importance was given to teaching basic literacy and numeracy skills to the young children of the island community. Generally, these classes were free and were attended by those

between 7 and 12 years. Thus, they had a significant impact on the literacy level of the nation when compared with other South Asian countries.

Unlike *edhuruge*, *makthab* and *madrasa* were either community or government-run institutions to provide education for the island people. Even though the curriculum of the *makthab* was similar to *edhuruge*, it was managed in a more formal setting and was often operated by a respected member of the island community. *Madrasas* were the most reputable educational institutions and had salaried teachers and a more wide-ranging curriculum. The first government-run *madrasa*, known as *Madhrasathul Saniyya*, was established in Malé, the capital city of the Maldives, in 1927. The purpose of this establishment was to provide education for boys. However, a section of this *madrasa* was later opened for girls in 1933 (UNESCO, 1989).

2.4 Evolution of the Modern Educational System

In the year 1953, the first President of the Maldives, Mohamed Ameen Didi, played a vital role in shaping the current educational system of the Maldives (Ministry of Education, 1999). One of the most remarkable educational reforms was the opening of a school for girls in 1944 in the capital city, Malé (UNESCO, 1989). Another huge milestone in the Maldivian educational system was the introduction of the English-medium school in the early 1960s. However, only students living in Malé had the privilege of studying in English-medium schools.

2.4.1 Education in the Maldives from 1978 to 2008

One of the most prominent historical changes in education in the Maldives took place under the leadership of President Maumoon Abdul Gayyoom from 1978 to 2008. When he became the president in 1978, there was no government-run school on any of the islands of Maldives except in Malé. As an initial step to provide access to education, two schools were established in each atoll with the aid of the Japanese government. The development in education in this era was so significant that within a period of just under ten years, a country with not a single state school (except in the capital) and no teacher training colleges succeeded in establishing a school on each island of the Maldives.

This was all achieved despite the challenges of the geographical dispersion of islands and a low-income economy. By the end of 1990, there was at least one school on each atoll that offered secondary education to prepare the students for the London IGCSE examination. During this time. the government also established a teacher training centre known as the Institute of Teacher Education (ITE) to train local teachers to work in their island schools. This programme made a considerable contribution to promoting education in the island communities and helped to minimise the dependency on foreign teachers.

In 2000, the government policy reforms, coupled with the increasing awareness among its population about the importance of education, enabled the Maldives to achieve the Millennium Development Goal (MDG) of providing universal primary education for all its pupils. The Maldives is proud to acknowledge that it is recognised by the UNDP as the country with a higher level of primary enrolment

than any other SARRC nation and outperforms many nations wealthier than the Maldives (Ministry of Finance and Treasury & UNDP, 2014).

By the end of 2005, there was no inhabited island in the Maldives without a government-run school providing free education and most of them offering the Cambridge international curriculum at secondary level. To help the public, the ministry also provides free textbooks and pays the Cambridge examination fee for all students. These achievements make the Maldives the only country in the SARRC region that offers free and accessible education based on an international curriculum for secondary-level students. However, the centralised nature of the education system and low achievement of students in the secondary school completion examination is a concern among Maldivians.

These concerns were spurred on as a result of the political transition that took place from 2004. During this period, much attention was paid to bringing democratic change through a multi-party democratic system. In this process, the opposition raised their concerns about the low attainment of pupils in the secondary school completion examination. As part of their manifesto, the opposition (the Maldivian Democratic Party (MDP) Alliance) pledged to reform the education system. After their historic win in the first multi-party election in 2008, the MDP government introduced various policies to bring changes to the education system. Some of these policies are summarised below.

2.4.2 Education in the Maldives from 2008 to Date

After many years of one-candidate referenda, the Maldives witnessed its first multi-party election in 2008. The candidate who stood against former President Maumoon

Abdul Gayyoom was Mohamed Nasheed from the MDP Alliance. As part of their election campaign strategy, the MDP published a manifesto with their campaign pledges. Out of the seven critical areas in the manifesto, education was the area that appealed most to the population. In their effort to address issues in education, the MDP Alliance identified six significant constraints and problems in the education sector. See Table 2.1:

Table 2.1: Constraints and Issues in the Education System Identified by the MDP Alliance

#	Constraints and Issues in Sector
1	National assessments indicate low achievement at all levels of education and a difference in the quality of education between Malé and other atolls
2	Limited time in schools prevent children from all-round development
3	Limited opportunities for the private sector to provide education
4	Emerging trend of parents taking children out of school due to personal preferences
5	Low percentage of trained local teachers and high turnover of trained expatriate teachers contribute to the low achievement rates of students
6	Lack of affordable opportunities for higher education in required fields and inequitable access to higher education

In their short era of nearly three years, the MDP government made several efforts to overcome the issues in the educational sector mentioned above. For this purpose,

they came up with 17 educational goals. This thesis will describe the most significant policies that contributed to recent developments in the education system.

One of the first educational policies of the MDP government was to increase community participation in school administration. To achieve this objective, the Ministry of Education introduced the school board (MDP, 2008). The school boards were elected by parents and teachers and were given the power to intervene in day-to-day school management. Because the election of the school boards was politically motivated, parents with insufficient knowledge of education were elected to the school boards. Many of the actions and policies introduced were inconsistent and difficult to follow. As a result, in 2012, the Ministry of Education stripped the boards of their executive powers and made it an advisory committee.

The second but most crucial policy of the MDP government was decentralisation. The decentralisation policy saw 20 of the atolls divided into seven provinces. In each province, an educational unit was established. The purpose of this unit was to minimise bureaucracy and to oversee the planning, implementation and monitoring of educational programmes (The Government of Maldives, 2009). Schools no longer needed to contact the central government ministry about every decision. However, a much-needed policy was jeopardised when the government was unable to provide the necessary autonomy and resources to run the provincial offices. The losses in the local council elections in 2010 by the newly elected government might be one of the reasons why the government was reluctant to delegate autonomy, budget and administrative powers to the local provincial offices. In a complete turnaround, provincial units were required to get approval for every decision from the Ministry of Education. As a result, the provincial education unit became another

layer between the schools and the Ministry of Education. They were no longer able to make decisions of their own. The promised autonomy was now taken away. The decentralisation had not worked, and schools quickly lost their confidence in the system. Like the previous policy, due to complaints and loss of trust from schools, the decentralised education units were also abolished in 2013.

Another critical educational policy that played a vital role in shaping the educational system was the introduction of the single-session school day. Generally, in the Maldives, schools ran two sessions. Secondary students attended school in the morning from 6:45 to 12:30 while primary students attended from 13:00 to 17:30. The new policy was intended to transform all schools into single-session schools to provide holistic education and a conducive environment for the students (The Government of Maldives, 2009). For the achievement of this objective, the MDP government acknowledged the urgent need to create the additional infrastructure needed to move to single-session schooling (The Government of Maldives, 2009). This policy was popular and received huge public support from the island communities. However, it was found that several schools were forced to change to one session without proper infrastructure support. In fact, this led some schools to convert libraries and toilet facilities to classrooms. The implementation of the single-session policy was particularly challenging in the capital city. There was an urgent need to provide seats for all the students living in the capital city. Thus, in 2015, the current government decided to withdraw the policy.

It must be acknowledged that all the policies mentioned above were popular and received support from the public. The intended policy outcomes could have brought

positive changes to the educational system in the Maldives. However, poor implementation for quick political gain is one of the likely factors that caused these policies to fail.

The most significant educational policy of the MDP government was raising students achieving at least five passes in the secondary school completion examination from 32 per cent to 60 per cent by 2013 (MDP, 2008). This is the main policy that inspired me to conduct this study. The next subsection of this chapter gives an overview of the policy in greater detail and how it is related to the context of my research.

2.4.3 Introduction of the 60 Per Cent Pass Policy

The MDP's education policies were the most ambitious educational promises made in recent years. The 60 per cent pass policy is one of them. As a response to the growing concerns with regard to low achievements in the secondary school completion examination, the MDP government pledged to increase the percentage of students passing (grades A–C) in five subjects or more in the lower secondary completion examination (IGCSE) from 32 per cent in 2008 to 60 per cent or more by 2013 (MDP, 2008; Ministry of Education, 2009b). Moreover, this is among the few policies that were upheld by the current government.

One of the reasons behind this policy is to bridge the education gap between the capital Malé and the rest of the atolls. Increasing students' enrolment at the higher secondary level and preparing students for higher studies are also key objectives of the policy. Table 2.2 shows the pass percentage of pupils in the seven provinces and the capital.

Table 2.2: Percentage of Pupils Passing in Five Subjects in 2009

Name of Province	Percentage of Pupils Passing in Five Subjects
Upper North	22
North	22
North Central	13
Central	25
South Central	17
Upper South	28
South	40
Malé	55

Though inspiring and ambitious, the achievement of the goal was perceived as complex and challenging to accomplish within four years. Therefore, to overcome the challenges associated with the implementation, the Educational Supervision and Quality Improvement Division (ESQID) of the Ministry of Education developed an action plan that included the responsibilities of people at every level of the system to achieve the policy objectives (Ministry of Education, 2010a).

2.4.4 Role and Responsibilities of Principals

In the action plan, the Ministry of Education acknowledged that improvement of results was a complex task involving many variables. Moreover, the Ministry further emphasised that factors related to school are the most influential in improving pupils' attainment (Ministry of Education, 2010a). The action plan also

stated that students' attainment is positively correlated with school leadership. This is perhaps one of the reasons why the Ministry of Education proclaimed that instructional leadership has a role to play in promoting students' attainment in the Maldives.

Prior to this policy, the job of the school principal was mainly focused on managing the administrative work of the school. The new policy required principals to lead and support the instructional activities of the school (Ministry of Education, 2010a). However, upon the implementation of the policy, the Ministry of Education assigned individual targets for each school. Moreover, the principals were expected to achieve the target for their school. In addition to this, the Ministry also made instructional leadership a key indicator of a *Baraabaru School* (i.e. good or effective school). Therefore, in this research, I will find out whether the principals' instructional leadership can have a positive impact on promoting students' attainment in the Maldives.

2.5 Summary

This chapter outlines the geographical and cultural context within which my research was undertaken. It describes significant changes in education policies in the last eight years since the new MDP government came into power. The policy that is of interest and which motivated me to carry out this research was the introduction of the 60 per cent pass rate target and the increasing responsibility of the school principals to achieve this target.

Chapter 3: Literature Review: The Promise of Effective School Movement and the Rise of Instructional Leadership.

3.1 Introduction

The primary purpose of this chapter is to summarise existing research evidence related to instructional leadership and its influence on school effectiveness. However, before that, a brief history of the emergence of school effectiveness research and its contribution to the evolution of instructional leadership will be presented. In this endeavour, attempts will be made to provide an overview of different models of instructional leadership. After that, the chapter will provide an analysis of studies that link instructional leadership with school effectiveness to promote pupils' attainment in schools.

3.2 Definition of School Effectiveness

The term "effective school" or "school effectiveness" or more recently "educational effectiveness" is often used in studies that describe various factors that may have a positive impact on students' academic attainment in schools. There are many operational definitions of school effectiveness. Mortimore (1991) defined an effective school as one in which students can obtain higher academic achievement than schools with a similar student intake. Goldstein (1997) used the term "school effectiveness" to describe factors that could play a role in differences in students' attainment within and between schools. According to Scheerens (2013), the most general understanding of the term "school effectiveness" refers to the level of goal attainment of a school. All these definitions indicate that the purpose of school effectiveness is about promoting students' learning in schools. Therefore, based on

the above definitions, I consider that it is appropriate to use students' attainment as an indicator of school effectiveness.

3.3 The Rise of the Effective School Movement

The initiative of the effective school movement is linked to the 1964 Civil Rights Act in the United States, which banned discrimination on the basis of race, colour, religion, sex and national origin. Consequently, the Commissioner of Education was asked to conduct a survey to determine the level of segregation and availability of equal opportunities for all individuals in public education institutions at all levels. In addition to this, the Civil Rights Act also required the production of a report concerning the lack of availability of equal educational opportunities for individuals in public education institutions to the President of the United States and the Congress within two years of the enactment of the law ("Civil Rights Act of 1964," 1964). After several discussions, the Commissioner of Education handed Coleman the responsibility to conduct a study to determine whether public education in the United States was fair (Dickinson, 2016).

When Coleman started this immense task, there were no prior comprehensive studies in which he could find information about funding and resource distribution among schools in different ethnic settings. Students' academic attainment had never been compared based on students' ethnicity and SES (Dickinson, 2016). The large-scale study which Coleman carried out by including 645,000 students in 4,000 different primary and secondary schools did not simply look at how the government allocated resources to schools, but also explored various factors that might affect

pupils' learning and how such factors could influence pupils' academic progress (Dickinson, 2016; Coleman et al., 1966).

Coleman's report revealed that pupils' academic attainment was mostly independent of schools and indicated that the SES and educational level of the family was far more significant than internal school factors in determining students' academic achievement (Coleman et al., 1966). Coleman concluded that:

> "schools bring little influence to bear on child's achievement that is independent of his [or her] background and general social context; and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighbourhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school" (Coleman et al., 1966, p. 325)

A later study conducted by Jencks et al. (1972), which includes a reanalysis of longitudinal data of more than 100 schools from Coleman's sample, supports the findings of the Coleman report. Like Coleman, Jencks et al. (1972) also concluded that the most important determinant of educational attainment was pupils' family background. A similar study conducted in the United Kingdom, known as the Plowden Report (1967), also indicated that pupils' SES and family background were the primary factors in pupils' academic success.

Even though several studies supported the key findings of the Coleman report, some prominent researchers were critical of its findings. One of the early challenges to Coleman's work was by Edmonds (1978, 1979). In his work, Edmonds (1979) claimed that regardless of pupils' family background and SES, schools could make a difference in promoting students' academic attainment. This notion was supported by various effective school studies conducted in the United States by Brookover, Beady, Flood, Schweitzer, and Wisenbaker (1979) and Brookover and Lezotte

(1979). These studies were conducted in primary schools. A similar study conducted in secondary schools in England by Rutter, Maughan, Mortimore, Ouston, and Smith (1979) also supported the finding that effective school characteristics might make a difference in pupils' attainment. Although the effective school studies brought hope for economically less advantaged pupils, they were met with many criticisms. There were concerns about the validity and generalisability of these early effective school studies (Creemers, 1994). This is mainly attributed to the limited sample size in many of these studies. However, critical evaluations of effective school studies in different contexts in various countries and of different age groups suggest that school factors are involved in students' achievement (Purkey and Smith, 1983).

3.3.1   Characteristics of School Effectiveness

The beginning of effective school studies was mainly to provide a response to studies such as Coleman et al. (1966) and Jencks et al. (1972), which claimed that schools did not matter and had a very little differential effect on pupil attainment. Studies that refuted this notion were eager to demonstrate the influence of school characteristics on pupils' academic attainment. One of the earliest presentations of such characteristics was known as the "five-factor model of school effectiveness" produced by Edmonds (1978). These characteristics are:

1. emphasis on students' acquisition of necessary skills;

2. high expectation for students;

3. strong administrative leadership;

4. frequent monitoring of student progress; and

5. an orderly climate conducive to learning.

In the effort to find "what works" for all students, many other effective school characteristics were published in various studies in different contextual settings. This has led to numerous reviews in the field of effective school research. Some of the influential reviews were published by Purkey and Smith (1983), Levine and Lezotte (1990), Scheerens (1992) and Sammons, Hillman, and Mortimore (1995). From these reviews, it was perceived that there is a considerable similarity among the effective school characteristics that have been identified in each of these reviews (see Table 3.1).

Table 3.1: Effective School Characteristics

Effective school characteristics	Purkey & Smith (1983)	Levine & Lezotte	Lezotte (1991)	Scheerens (1992)	Sammons et al. (1995)
School leadership	✓	✓	✓	✓	✓
Monitoring of student progress	✓	✓	✓	✓	✓
Opportunity to learn	✓	✓	✓	✓	✓
High expectation of achievement	✓	✓	✓	✓	✓
Parental involvement	✓	✓	✓	✓	✓
Orderly learning atmosphere	✓		✓	✓	✓
Clear goals	✓	✓	✓		✓
Staff development		✓			✓
Pupils' rights and responsibilities					✓
External stimuli for effectiveness				✓	
Teacher experience				✓	
School context characteristics				✓	
Physical school characteristics				✓	

Taken from: *Review of school and instructional effectiveness research* (Scheerens, 2004).

The above reviews suggested that there are five common effective school characteristics. They are:

- School leadership

- Monitoring of students' progress

- Opportunity to learn

- High expectation for achievement

- Parent involvement

In addition to these reviews, there are many studies about the characteristics of an effective school. Examples of such studies were carried out by Rutter et al. (1979), Mortimore, Sammons, Stall, Lewis, and Ecob (1988), Stringfield and Teddlie (1991), Scheerens and Bosker (1997), Teddlie and Reynolds (2000) and Reynolds et al. (2014).

However, for this research, I chose to use the effective school characteristics, more widely known as effective school correlates, published by Lezotte (1991). This is mainly due to the extensive use of these correlates in school effectiveness and school evaluations. In addition to this, the questionnaire that was used in this study was also developed based on the effective school correlates published by Lezotte (1991). Below is a description of the effective school characteristics considered in this study.

3.3.1.1 *Clear and Focused Mission*

One of the characteristics of an effective school is having a clear and focused mission through which the staff share an understanding of and commitment to instructional goals, priorities, assessment procedures and accountability. This is the

most fundamental characteristic that makes staff responsible for their students' learning and accepts key curricular goals of the school (Lezotte, 1991). Moreover, the school's mission statement also reflects the school community's belief about future plans of their school (Lezotte & Snyder, 2011).

One of the crucial tasks of the school principal or headteacher is to develop the school goals (Gabriel & Farmer, 2009). Therefore, it is essential that teachers should also be involved in formulating these goals so that they have a sense of ownership at the school decision-making level. Moreover, this will create an atmosphere of shared responsibility for the school's attainment of its goals (Harris & Muijs, 2005).

3.3.1.2 Frequent Monitoring of Students' Progress

In effective schools, students' academic progress is frequently measured through a variety of assessment procedures. The results of these assessments are used to improve individual student performance and also to improve the instructional programme (Lezotte, 1991, p. 6). A review of 35 studies that investigated the effect of frequent monitoring of students' progress by Bangert-Drowns, Kulik, and Kulik (1991) indicated that frequent monitoring of students' progress has a positive effect size of 0.23 for student achievement. A meta-analysis by Hattie (2015) suggested that frequent assessment has a positive effect size of 0.52 for higher learning outcomes.

According to Lezotte and Snyder (2011), student monitoring has to be carried out by using various assessment methods, and the outcome of the assessments should be used to improve individual student performance. Lezotte and Snyder (2011)

further emphasised that information obtained from the assessments must be used to make necessary adjustments to the instructional programme to meet student learning needs. This idea was also stated by Fuchs and Fuchs (2003) in their analysis of research on student progress monitoring. Using controlled experiments, they concluded that:

> "When teachers use systematic progress monitoring to track their students' progress in reading, mathematics, or spelling, they are better able to identify students in need of additional or different forms of instruction, they design stronger instructional programs, and their students achieve better". (p. 1)

Frequent monitoring of students' progress not only apparently helps teachers to identify areas for improvement in teaching and learning; it also provides insightful information to students about their learning. As a result, students learn to achieve their curricular goals better (Luckner & Bowen, 2010).

3.3.1.3 Safe and Orderly Environment

In effective schools, there is an orderly, purposeful, business-like atmosphere, which is free from the threat of physical harm. The school climate is not oppressive and is conducive to teaching and learning (Lezotte, 1991, p. 1). To establish a safe learning environment, Lezotte (1991) not only suggested dealing with undesirable behaviours in school but also emphasised the importance of teaching students about the necessary good behaviours that can create an orderly learning environment. This includes an emphasis on cooperative team learning, respect for human diversity and an appreciation of democratic values.

The work of Hays (2011), Waters and Marzano (2003) and Dunsworth and Billings (2013) also upholds the importance of a safe and orderly environment for students' learning. This is mainly because pupils will have a sense of safety and security in disruption-free schools and would be less likely to skip school. Moreover, such a school environment would encourage students to excel academically (Perkins, 2006). In addition to having a positive effect on students' academic attainment, a school that is free from threats and danger is more likely to retain good teachers (Kraft, Marinell, & Shen-Wei Yee, 2016).

Marzano (2003) highlighted that a safe and orderly environment is critical to ensure an effective school environment for learning. This claim is mainly based on large-scale data from the US School Safety Centre and a large-scale survey conducted in Lexington, Kentucky. Moreover, this notion is supported by a longitudinal study conducted in 23 schools in the United States by Wang and Holcombe (2010). This study claimed that students' perceptions of the school environment have both direct and indirect influence on pupils' academic achievements.

3.3.1.4 Opportunity to Learn and Student's Time on Task

The purpose of this effective school characteristic is to ensure that significant time is allocated for activities related to teaching and learning of essential skills (Lezotte, 1991). This effective correlate is vital because students often tend to learn the things on which they spend time. Various studies have indicated the importance of providing sufficient time for students' learning to achieve curricular goals (Lezotte & Snyder, 2011).

One of the earliest theoretical concepts that highlighted the importance of students learning time at school is stated by Carroll (1963) in his "Model of School Learning". The key assumption of Carroll's model is that students' learning at school is a function of time (i.e. *Learning = f (time spent/time required)*). Therefore, the fundamental notion of this theory is that spending more time on a task improves students' learning at school. This idea was acknowledged by the United States Department of Education (1987). According to the Department of Education, "how much time students have actively engaged in learning contributes strongly to their achievement" (p.51).

By a series of experiments, Gettinger (1989) affirmed the theoretical assumptions surrounding students' learning time and their achievement. Furthermore, an international study by Benavot and Amadio (2004) stated that pupil achievement increases when students are given greater opportunities to learn, especially when "engaged learning time" is maximised.

3.3.1.5 High Expectation for Students Success

In an effective school, there is a climate of expectation in which the staff believe that all students have the capacity to attain the essential curricular goals of the school (Lezotte, 1991; Klem & Connell, 2004; Rowan, Chiang, & Miller, 1997; Haynes, Emmons, & Ben-Avie, 1997; Rubie-Davies, Hattie, & Hamilton, 2006; Rubie-Davies, Peterson, Sibley, & Rosenthal, 2015; Muijs et al., 2014). One of the fundamental aspects of this characteristic is that it demands that teachers have the capability to help all students achieve those curricular goals (Lezotte, 2001). In his work Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to

Achievement, Hattie (2009) cited high expectation of teachers as having a positive effect on students' academic attainment (effect size = +0.43). Moreover, teachers' expectations have a powerful influence on young children's learning experiences (Schilling & Schilling, 1999).

The belief that all pupils can succeed is especially important in schools with pupils from diverse backgrounds and different abilities. This is because teachers' stereotypical view of some disadvantaged groups can reinforce students' negative beliefs and perceptions of their ability (Ferguson, 2001).

3.3.1.6 Positive Home–School Relation

In the effective school, parents "understand and support the school's basic mission and are given the opportunity to play an important role in helping the school to achieve this mission" (Lezotte, 1991, p. 7). Research has repeatedly proven that a positive relationship between school and parents may play a vital role in promoting students' academic attainment at school. Studies that support the importance of a positive home–school relationship include the work of Topping (1986); Hoover-Dempsey and Sandler (1995); Olender, Elias, and Mastroleo (2010); Fan and Chen (2001).

Research not only shows that parental involvement with children has a positive influence on academic attainment; it also shows that parental involvement can have a positive effect on student's motivation and behaviour management at school (Menheere & Hooge, 2010). According to Comer (1992), a healthy home–school partnership is essential to develop children's behavioural, social and academic competencies. Moreover, it is shown to be effective in reducing behaviour referrals

and suspensions from school. In addition to this, Resnick et al. (1997) also emphasised that a positive relationship between parents and school is essential for behaviour modification of students with high-risk behaviour. A recent study by Lendrum, Barlow, and Humphrey (2015) suggested that parental involvement is crucial especially for vulnerable students and also for students with special educational needs and disabilities.

A positive home–school relation is essential for both school and children to achieve their goals. However, such a relationship is most important to most vulnerable students. A study conducted by Dearing, Kreider, Simpkins, and Weiss (2006) revealed that family involvement in school matters most for children with less educated parents. Moreover, Dearing et al. (2006) also found that greater family involvement increased literacy achievement for students from low-income families and that family involvement in school matters most for children at greatest risk.

The above-mentioned studies provide a brief description of effective school characteristics or correlates that are considered in this study. Examination of these investigations revealed that most of these characteristics are suggested by correlational studies that are keen to identify school factors that may contribute to pupils' attainment. Therefore, it may not be accurate to link pupils' attainment only to these characteristics, as often practised in the effective school research domain.

3.4 Instructional Leadership

Lezotte (1991) emphasised that in an effective school, the "principal acts as an instructional leader and effectively and persistently communicates that mission to the staff, parents, and students. The principal understands and applies the characteristics of instructional effectiveness in the management of the instructional program". Zepeda (2014) defined instructional leadership as:

> "Strong leadership that promotes excellence and equity in education and entails projecting, promoting, and holding steadfast to the vision; garnering and allocating resources; communicating progress; and supporting the people, programs, services, and activities implemented to achieve the school's vision" (p. 4).

Principals who are instructional leaders clearly define the mission of the school and help to determine, along with the school staff, the goals that support the mission. They take every opportunity to communicate the instructional mission and goals of the school to the staff, parents and community (Purkey & Smith, 1982).

Sergiovanni (1991) described the principals that practised instructional leadership as effective principals who had strong views about the instructional process that takes place in school. This notion was also supported by Smith and Andrews (1989). According to Smith and Andrews (1989), principals who are competent in their job practice four critical dimensions of instructional leadership. They are (1) resource provider; (2) instructional resource; (3) communicator; and (4) visible presence. "Resource provider" means that the principal ensures that teachers have what they need to perform their duties and responsibilities. "Instructional resource" means that the principal supports the instructional goals by modelling expected behaviours and participating in professional growth opportunities. As a communicator, the

principal establishes clear goals for the school and ensures that everyone is aware of the school's goals and expectations. Moreover, the principal also allows easy accessibility between staff and management to make management's actions visible to the staff.

The literature suggests that there are many different definitions of the term "instructional leadership". Murphy (1988) defined the term as leadership that supported classroom teaching and student learning. However, for this study, instructional leadership will be defined based on the theoretical framework of the Principals' Instructional Management Rating Scale (PIMRS) developed by Hallinger (1990). According to Hallinger (1990), instructional leadership is defined as school leadership that (i) defines the school mission, (ii) manages the instructional programme and (iii) develops the school learning climate (Hallinger, 1990). Therefore, it can be said that instructional leadership is learner-centred leadership that is primarily focused on developing students' learning and strengthening the teaching of the school (Southworth, 2009).

3.4.1 Evolution of Instructional Leadership

Previously, the principal was expected to be the local expert on teaching and learning. It was known that the principal's role was that of the headteacher, responsible mainly for the administrative affairs of the school. Moreover, there was little connection between the work of the principal and the teachers (Tucker & Codding, 2002). However, after the Coleman report in 1966, many educators have focused their research on identifying factors for school improvement. In this endeavour, instructional leadership has become an essential aspect of reforming and

improving the performance of schools (Hallinger, 2003, 2011a). Early interest in this issue may be traced back to the conceptual efforts of Bridges (1967) and the empirical research work of Gross and Herriot (1965) in the United States. However, it was not until the 1980s that scholars began to explore the real influence of instructional leadership in a more systematic way (Hallinger, 2011a; Brookover & Lezotte, 1982).

Edmonds (1979) identified instructional leadership as one of the characteristics of an effective school. However, many researchers claim that school administrator research conducted prior to the early 1980s had little effect upon the field of instructional leadership. The main reason was that early attempts to measure leadership in organisations, including schools, often focused on the traits of managers, rather than on specific job behaviours (Hallinger, 2011a).

3.4.2 Models of Instructional Leadership

In the 1980s, the attention given to instructional leadership increased. Several studies by various researchers were conducted in schools. Moreover, numerous studies claimed that principals' instructional leadership might make a difference in promoting school effectiveness by having a positive effect on students' academic attainment (Andrews & Soder, 1987; Hallinger & Murphy, 1985; Murphy, 1990; Weber, 1996; Bossert, Dwyer, Rowan, & Lee, 1982; Leithwood, Begley, & Cousins, 1990; Leithwood & Montgomery, 1982). This could be one of the likely reasons why researchers were keen to develop models that describe instructional leadership and its characteristics. For a better understanding of various instructional leadership concepts, the next part of the chapter will be used to give an overview of

some of the influential instructional leadership models. Leadership models developed by Hallinger and Murphy (1985), Murphy (1990) and Weber (1996) will be presented with their core leadership dimensions and specific job functions.

3.4.2.1 *Hallinger and Murphy's Model (1985)*

Hallinger and Murphy (1985) developed their model of instructional management from examining the instructional leadership behaviours of ten elementary school principals in one school district and a review of the school effectiveness literature. They collected information from principals, school staff and central administration supervisors by using a standard questionnaire on instructional leadership behaviours. From this data and theoretical analysis, they developed a framework of instructional leadership with three dimensions and 11 job descriptors.

The three major management functions mentioned in the instructional leadership model of Hallinger and Murphy (1985) are: (i) defining the school mission; (ii) managing the instructional programmes; and (iii) promoting a positive school climate. Mission was defined in terms of framing and communicating goals. The instructional programme was defined in terms of supervising and evaluating, instruction, coordinating the curriculum, and monitoring students' progress. The last function, the school climate, was identified as the principal protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teacher development, enforcing high academic standards and providing incentives for students (Hallinger & Murphy, 1985). These functions and their elements are summarised in Table 3.2.

Table 3.2: Instructional Leadership Model by Hallinger and Murphy (1985)

Defines the Mission	Manages Instructional Programme	Promotes School Climate
Frames school goals	Supervises and evaluates instruction	Protects instructional time
Communicates school goals	Coordinates curriculum	Promotes professional development
-	Monitors student progress	Maintains high visibility
-	-	Provides incentives for teachers
-	-	Enforces academic standards
-	-	Provides incentives for students

3.4.2.2   Murphy's Model (1990)

Murphy (1990) also provided a broad review of instructional leadership that is primarily based on the development of school and staff. This framework includes four dimensions of instructional leadership and 16 instructional leadership behaviours or elements. The four dimensions of the instructional leadership are: (i) developing the mission and goals; (ii) managing the educational production function; (iii) promoting an academic learning climate; and (iv) developing a supportive work environment. See Table 3.3 for Murphy's model of instructional leadership.

Table 3.3: Murphy's Comprehensive Instructional Leadership Framework

Developing Mission and Goals	Managing the Educational Production Function	Promoting an Academic Learning Climate	Developing a Supportive Work Environment
Framing school goals	Promoting quality instruction	Establishing positive expectations and standards	Creating a safe and orderly learning environment
Communicating school goals	Supervising and evaluating instruction	Maintaining high visibility	Providing opportunities for meaningful student involvement
	Allocating and protecting instructional time	Providing incentives for teachers and students	Developing staff collaboration and cohesion
	Coordinating the curriculum	Promoting professional development	Securing outside resources in support of school goals
	Monitoring student progress		Forging links between the home and the school

3.4.2.3 Weber's Model (1996)

Weber (1996) identified five essential domains of instructional leadership: (i) defining the school's mission; (ii) managing the curriculum and instruction; (iii) promoting a positive learning climate; (iv) observing and improving instruction; and (v) assessing the instructional programme.

Weber (1996) defined the school's mission as a dynamic process of cooperation and reflective thinking to create a mission that is clear and honest. The mission of

the school should bind the staff, students and parents to a shared vision. The instructional leader offers the stakeholders the opportunity to discuss the values and expectations of the school. As a result, they work to create a shared mission for the school.

According to Weber (1996), managing the curriculum and instruction must be consistent with the mission of the school. Since the school vision should be integrated into the instruction process, instructional leaders need to have a fair amount of knowledge and skills about instruction. Such knowledge and skills are essential for the principal to identify the areas of help needed by teachers to improve their teaching. Thus, the necessary steps can be taken to improve students' learning in school.

In his model of instructional leadership, Weber (1996) described the instructional leadership dimension of promoting a favourable learning climate as factors that involve the expectations and attitudes of the whole school community. According to Weber (1996), this is the most important factor that appears to contribute to students' learning.

The last dimension of instructional leadership in Weber's model is to assess the instructional programme for its improvement (Weber, 1996). The instructional leader initiates and contributes to the planning, designing, administering and analysing of assessments that evaluate the effectiveness of the curriculum. This continuous scrutiny of the instructional programme enables teachers to meet students' needs through constant revision and refinement effectively. Weber's model of instructional leadership model is summarised in Table 3.4.

Table 3.4: Weber's (1996) Model of Instructional Leadership

Domains of Instructional Leadership	Explanation
1. *Defining the School's Mission*	The instructional leader collaboratively develops a shared vision and goals for the school with stakeholders.
2. *Managing the Curriculum and Instruction*	The instructional leader monitors classroom practice alignment with the school's mission, provides resources and support in the use of instructional best practices, and models and provides support in the use of data to drive instruction.
3. *Promoting a Positive Learning Climate*	The instructional leader promotes a favourable learning climate by communicating goals, establishing expectations and establishing an orderly learning environment.
4. *Observing and Improving Instruction*	The instructional leader observes and improves instruction through the use of classroom observation and professional development opportunities.
5. *Assessing the Instructional Programme*	The instructional leader contributes to the planning, designing, administering and analysis of assessments that evaluate the effectiveness of the curriculum.

Among the instructional leadership models presented, the model proposed by Hallinger and Murphy (1985) is used in this study, because it is the most widely used model of instructional leadership in empirical studies (Hallinger & Heck, 1996a; Hallinger, 2005). In addition to this, this model was also the basis of the conceptual framework of PIMRS used in this study for data collection.

The international literature on instructional leadership indicates that there are three broad domains of instructional leadership studies. They are: (1) studies that aimed to find the effects of personal antecedents and the school context on instructional leadership; (2) studies that focused on exploring the effects of instructional leadership on the organisation; and (3) studies that explored the direct and indirect effects of instructional leadership on student achievement and school outcomes (Hallinger, 2005). As mentioned earlier, one of the primary purposes of this study is to examine the contribution of principals' instructional leadership to school effectiveness. Therefore, the next subsection of this chapter will be used to present studies that cover the relationship between principals' leadership and the existence of effective school characteristics in schools.

3.5 Role of Principals' Instructional Leadership for an Effective School Climate

The most important role of a principal is to carry out leadership that is required to create a productive learning climate in school (Goldring, Porter, Murphy, Elliott, & Cravens, 2009; Lynch, 2012; Portin et al., 2009; Bosworth, Garcia, Judkins, & Saliba, 2018; Fullan, 2014). Moreover, strong instructional leadership has consistently been described as a correlate of effective schools (Hallinger & Murphy,

1986). Therefore, this part of the chapter presents evidence concerning the role of principals in creating an effective school environment. In this endeavour, evidence will be provided to check whether the principal's instructional leadership might have any significant relationship with the existence of effective school characteristics considered in this study.

3.5.1 Clear and Focused Mission

There are various studies that indicate that the principal's instructional leadership may play an essential role in developing the school mission. These studies indicate that a clear mission and well-defined goals are essential for staff to maintain a sense of common purpose for better instructional outcomes (Edmonds, 1979; Brookover et al., 1979; Brookover & Lezotte, 1979; Rutter et al., 1979; Leithwood et al., 1990; Leithwood, 1994). In addition to this, several studies supported the idea that the principal's role in framing school goals, establishing a clear mission and gaining staff consensus were stronger predictors of school improvement (Goldring & Pasternack, 1994; Fackler & Malmberg, 2016; Hallinger, Bickman, & Davis, 1996; Grayson & Alvarez, 2008).

Additional supporting evidence by Uline, Miller, and Tschannen-Moran (1998) and Sun-Keung Pang (1998) also suggested that the principal's ability to coordinate the school mission with the school goals is essential in achieving its curricular objectives. Moreover, Hallinger, Bickman, and Davis (1996) claim that establishing a clear school mission is one of the avenues through which the principal may play a significant role in promoting school effectiveness.

3.5.2   Frequent Monitoring of Students' Progress

Another effective school characteristic considered in this study is the frequent monitoring of students' progress. Such monitoring is deemed essential to identify areas for improvement in teaching and learning. In addition to this, it provides vital information regarding the overall effectiveness of teaching and learning in the school. The principal's leadership may play a key role in collaboration with teachers to establish a mechanism to monitor students' learning (Hallinger, 2003; Roderick, 2012). Monitoring students' progress includes evaluating student learning regularly and systematically and using the results to assess the usefulness of the school's goals in achieving its mission.

The idea that the principal plays an essential role in improving school outcomes by frequently monitoring the progress of students is often cited in effective school studies (Hallinger, 1990). Several studies indicate that in effective schools, the principal discusses test results with teachers to gather information about students' learning. The results of these assessments may help the teachers and principal to determine the effectiveness of the instructional activities in the school and make informed instructional decisions to achieve the school goals (Edmonds, 1979; Brookover et al., 1979; Luckner & Bowen, 2010; McLeskey & Waldron, 2015; Parker & Day, 1997).

3.5.3   Safe and Orderly Environment

Teaching and learning require a healthy, safe and orderly environment (Marzano, 2003; Wegenke, 2000; Chaplain, 2017; Wang & Degol, 2016). It is important to acknowledge that the notion of safety extends beyond the physical well-being of

students in school. Moreover, such an environment should be free from any form of physical and mental harm that may affect students' learning and their well-being. There is an indication that effective principals ensure that their school is conducive to learning and teaching. For this purpose, principals use a variety of measures to provide an orderly learning environment that is safe and supportive for all the members of the school community (Goldring et al., 2009; Fullan, 2016).

There are several studies that suggest the importance of preventing tardy and truanting behaviour in the school for better educational attainment (Dwyer, Osher, & Hoffman, 2000; Safran & Oswald, 2003). Moreover, it is highly likely that students who persistently have discipline problems often drop out of school (Stearns, Moller, Blau, & Potochnick, 2007; Stamou, Edwards, Daniels, & Ferguson, 2014; Wu, Pink, Crain, & Moles, 1982). In such situations, it is the principals who will take the initiative and demonstrate leadership to mobilise teachers, parents and the community to work together to make the school a safe learning environment. This is because the perception of a safe and healthy school climate has a positive relationship with better student outcomes (Griffith, 2001).

3.5.4   Opportunity to Learn and Students' Time on Task

One of the characteristics of an effective school is to provide equal opportunities for students to learn and protect students' instructional time. This is because a learning environment that provides equal opportunities for learning is considered to have a positive effect on students' motivation to learn (Eccles et al., 1993; Cohen, McCabe, Michelli, & Pickeral, 2009; Pinter, 2017). There is strong evidence to suggest that educational outcomes and opportunities are heavily stratified by

student background (Gorard & See, 2013). Therefore, as the school leader, the principal should play an important role in facilitating a learning climate that provides equal learning opportunities for students regardless of background. In addition to this, the principal also should plan school activities to minimise disruption in school to protect the instructional time of the students.

Hallinger and Murphy (1986) suggested that it is the principal who would make this expectation abundantly clear to teachers. Therefore, in an effective school, the principal works as an instructional leader to empower teachers and include them in decision-making in order to achieve significant changes in classroom practice. The purpose of these changes would be to allocate a significant amount of classroom time to instruction in the essential curriculum areas. As a result, for a high percentage of this time, students are actively engaged in whole-class or large-group, teacher-directed, planned learning activities (Lezotte, 1991; Lezotte & Snyder, 2011). To achieve this, the principal should facilitate improvement in teaching and learning through supporting teachers' development of classroom practices, which, in turn, will provide rigorous learning opportunities for students (Murphy, Elliott, Goldring, & Porter, 2007; Boston, Henrick, Gibbons, Berebitsky, & Colby, 2016; Robinson, Lloyd, & Rowe, 2008).

3.5.5 High Expectation of Students' Success

The foundation of an effective school movement is the belief and expectation that school can make a difference in students' attainment regardless of their background and SES. It is often accepted that having high expectations for each pupil is essential in school practice (Sammons et al., 1995). Moreover, several studies indicate that

students' attainment is positively associated with a learning environment where professionals have high expectations for every child (Halvorsen, Lee, & Andrade, 2009; Penfield & Lee, 2010). For these reasons, an effective school principal works together with teachers and other school staff to ensure that expectations of student achievement are understood across classrooms and grade levels (Lezotte, 1991; Lezotte & Snyder, 2011). Research on educational leadership by Leithwood, Louis, Anderson, and Wahlstrom (2004) report that the impact of leadership on student achievement is second only to that of classroom teachers and that leaders are most effective when they establish clear directions, maintain high expectations and use data to track student progress in school.

3.5.6 Positive Home–School Relationship

Involvement of parents in their children's education has been reported as one of the key characteristics of an effective school (Lezotte, 1991; Lezotte & Snyder, 2011). According to Coleman et al. (1966), parent involvement, in particular, among parents whose children traditionally have low academic achievement, namely, socioeconomically disadvantaged students, is essential for students' academic success.

In the effective school literature, there is a strong indication that the principal, as an instructional leader, should maintain appropriate relationships with parents to create conditions to achieve school consensus on the instructional programme, goals and academic standards (Lezotte & Snyder, 2011; Bossert et al., 1982; Stronge, 1990; Epstein, 2018). In addition to this, it was also found that in schools where the principal seeks parental involvement in school, this has a

positive effect on students' outcomes (Leithwood & Mascall, 2008; Orphanos & Orr, 2013).

Often, the above-mentioned studies and those of similar nature are taken to suggest that school leadership promotes an effective school climate, which, in turn, promotes pupils' attainment. However, the claim made by these studies is questioned, mainly due to the weak study design and misrepresentation of the study participants. Moreover, the overclaimed generalisations of these studies over the entire population is also a concern that needs to be addressed in the field of effective school research. Therefore, the following part of this chapter will be used to analyse the existing literature to check whether the principal's instructional leadership creates such a contribution to school effectiveness by improving students' attainment.

3.6 Does Instructional Leadership Actually Make a Difference to Pupils' Attainment?

The belief that the principal's leadership may have a positive impact on students' learning is a widely accepted idea in the educational field (Hallinger & Heck, 1996a; Leithwood, Harris, & Hopkins, 2008; Cotton, 2003; Heck & Hallinger, 2010; Dinham, 2005). It is believed that for the smooth functioning of any organisation, there must be an effective leader. Likewise, schools also need a dedicated person who would lead and manage the day-to-day activities in the school. The ultimate purpose of such activities is to facilitate teaching and to promote students' learning. Early studies often proclaimed that principals' leadership could have a strong impact on students, indicating its positive effect on

students' attainment. One such example is the *Report on Secondary Education in America* by Boyer (1983), in which he claimed that high achievement of schools is consistently linked to the principal's leadership. A similar claim expressed by Barth (1990) also suggested that a leader who has the capability to lead the instructional process of the school is one of the most important factors for school success. Barth (1990, p. 64) expressed the role of the principal in school achievement as follows:

> "The principal is the key to a good school. The quality of the educational program depends on the school principal. The principal is the most important reason why teachers grow or are stifled on the job. The principal is the most potent factor in determining school climate. Show me a good school, and I'll show you a good principal."

However, critical analysis of these studies indicated that their findings are overclaiming and often confusing correlation with causation. In addition to this, it was also found that the finding reported by Boyer (1983) was mainly based on 20 hours' observation of 15 schools in the United States. It can be argued that a finding that is based on a few case studies should not be taken to generalise the principal's leadership as one of the main factors for students' attainment in the school.

In addition to this, there are several studies that suggest that the principal's instructional leadership has a direct effect on school improvement and students' learning (Silver & Moyle, 1986; Blase, 1987). Moreover, a review of research on leadership effects on students' learning by Leithwood et al. (2004), Leithwood et al. (2008) and Gurr, Drysdale, and Mulford (2005) also concluded that there is a significant relationship between school leadership and students' achievement.

They further emphasised that the principal's leadership has both a direct and indirect effect on students' attainment. However, a similar study by Hallinger and Heck (1996a, 1996b) suggested that the effects of the principal's instructional leadership are *indirect*, not direct. A review of 40 years of empirical research on leadership for learning by Hallinger (2011b) reaffirmed that instructional leadership has an only indirect effect on students' learning (effect size of 0.31). Analysis shows that vast majority of the studies considered in the above mentioned reviews are correlational studies with weak study design, which does not prove any causal relationship between the principal's instructional leadership and students' attainment.

A study of a more robust nature conducted by Heck and Moriyama (2010) used a regression discontinuity approach to find the effect of the principal's leadership on students' outcomes at the elementary level. Their findings indicated that the principal's instructional leadership might play a role in facilitating school improvement through building instructional practices in the school, which, in turn, have a positive effect on students' attainment. This finding can be interpreted to suggest that the principal's instructional leadership does have a substantial indirect effect on the overall educational attainment of the students. In addition to this, this study also supported the findings of Bossert et al. (1982); Heck and Hallinger (2010); Leithwood and Jantzi (1999); Witziers, Bosker, and Krüger (2003); Cheng (1994). However, several possible limitations can question the generalisability of Heck and Moriyama's (2010) study. For example, there could be many types of school practice indicators that might have a positive effect on students' learning. However, in their studies, there are only a few variables such as school context,

composition, leadership and instructional practices that are used to discover the direct and indirect effects on added-year outcomes of pupils.

The above findings suggested that early school leadership studies do not indicate any conclusive verdict on the effect of leadership on student attainment. Therefore, more focus will be given to recent studies to explore the effect of the principal's leadership on students' attainment. One such study that is of interest was conducted by Hallinger and Ko (2015) in Hong Kong. This two-year longitudinal survey among teachers comprise 32 primary schools in Hong Kong was designed to explore the mediated effects of school leadership. Contrary to many previous claims by Hallinger and Heck (1996a, 1996b), Heck and Hallinger (2010) and Hallinger (2011b), this study did not indicate any direct or indirect effect of leadership on students' attainment. However, a later study by Liu and Hallinger (2018) indicated that the principal's instructional leadership had moderate direct and indirect effects on teacher self-efficacy and teacher professional learning. The authors used this finding with previous empirical studies that link teacher professional learning to students' learning and school improvement (Hallinger, Hosseingholizadeh, Hashemi, & Kouhsari, 2017; Dinham, 2007; Qian & Walker, 2013; Tran, Hallinger, & Truong, 2018; Dimmock & Hattie, 1996; Leithwood & Jantzi, 2008). Based on this, they suggested that there is an indirect association between instructional leadership and students' achievement. However, the cross-sectional design of this study does not establish a causal relationship between the principal's leadership and teacher professional learning. Moreover, it has to be acknowledged that the relationship between teacher self-efficacy and teacher professional learning may not be related to the principal's instructional leadership.

In addition to this, there is the possibility that this relationship is reciprocal between teacher self-efficacy and teacher professional learning. Further analysis of data used in this study revealed that the absence of longitudinal data related to teachers prevented an opportunity to test the reciprocity between these two variables.

A study which investigated the combined practices of principals' transformational and instructional leadership claimed that successful principals have positive influences on classroom processes (i.e. teaching and learning activities that take place in the classroom) and which in turn promote pupils' academic outcomes (Day, Gu, & Sammons, 2016). Moreover, this study suggested that schools and leadership have a positive influence on classroom processes by developing teachers, improving teaching quality and promoting a favourable school climate and culture that emphasise high expectations and academic outcomes. The idea that classroom processes are one of the most crucial factors for student attainment has been hypothesised by various studies (Leithwood et al., 2004; Day, Gu, Sammons, & Davis, 2014; Harris, 2013). This study was based on case studies of 20 schools over a period of three years to investigate the contribution of principals' leadership on student outcomes. It was mentioned that the authors have deliberately over-sampled schools with higher proportions of disadvantaged pupils. The purpose of this selection was to achieve a more balanced sample of schools in relation to the level of disadvantaged pupil intake. Findings presented in this study suggested that principals whose schools drew their pupils from highly challenging socioeconomically disadvantaged communities faced a greater range of challenges in leadership commitment, student behaviour, motivation and achievement than

those in more advantaged communities. But it was reported that even with such challenges, principals' leadership played a role in achieving and sustaining successful pupil outcomes in schools. However, the study did not report any differential effect of individual students' SES that might influence their academic attainment. Therefore, to relate pupils' attainment to the principal's leadership and its effect on classroom practices may not be as accurate as authors have claimed.

Moreover, there is a possibility of sample bias in this study. This is because the 20 schools in this study were only those schools in the national database that had improved over at least three consecutive years under the leadership of the same principal. Therefore, the above finding could be used to cast doubts on the positive effects of principals' instructional leadership. As a result, more large-scale data is being used to assess whether instructional leadership may have any positive link to students' attainment. One such endeavour is the PISA 2015 survey by OECD, conducted in 72 countries with a sample of approximately 540,000 students. The result of this survey suggested that the principal's leadership has a positive link to students' achievement with an average correlation coefficient of 0.38 (OECD, 2016). However, it may be possible that schools that performed well in these 72 countries might be in economically better areas. As a result, a student in these schools may have the privilege of having better resources required for their academic development. Therefore, it may not be justifiable to claim that the principal's leadership may explain a variance of over 14 per cent in students' attainment. The combined data from PISA 2012 and TALIS 2013 suggested that pupils' economic, social and cultural status (ESCS) has a stronger link to their

attainment ($r = 0.67$) (Austin et al., 2015). The graphical illustration of this finding is shown in Figure 3.1.
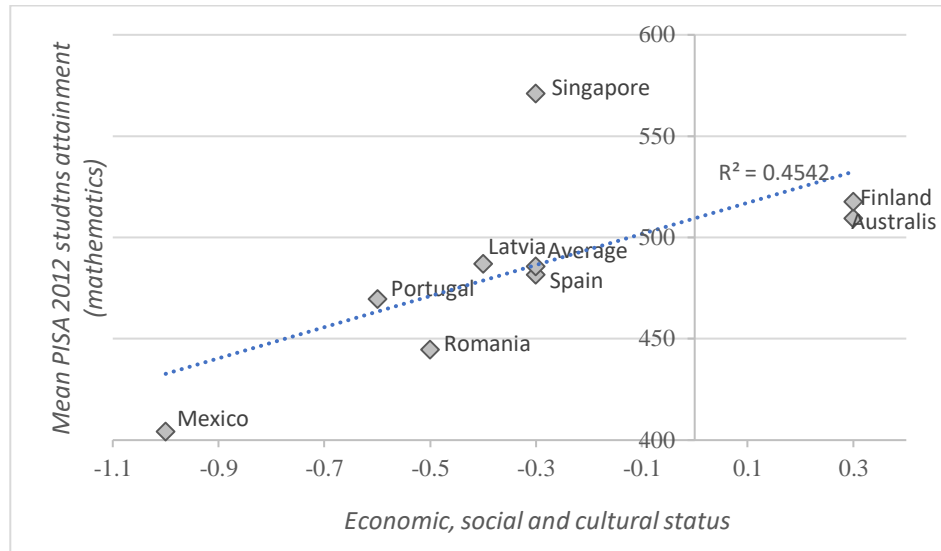
Figure 3.1: Relation between ESCS and PISA 2013 mathematics achievement

The above studies are often used to suggest that instructional leadership has a role in making school more effective for the better educational attainment of students. However, it would be misleading to agree with such a claim without considering the environmental factors associated with the school as well as the students.

3.7 Summary

This chapter provided relevant literature related to school effectiveness and instructional leadership. The chapter started with a description of the historical background of the effective school movement followed by the advances in research in school effectiveness. From the literature, it was agreed that the effective school movement started in the United States with the publication of the Coleman report in 1966. This has led researchers to identify characteristics that may make

differences in pupils' academic attainment at school. Among the various characteristics identified in this chapter, I chose to use effective school correlates identified by Lezotte (1991). They are a clear and focused mission, high expectation of success, a safe and orderly environment, opportunity to learn and students' time on task and frequent monitoring of students' progress.

The second part of the chapter aimed at presenting literature related to instructional leadership. For this purpose, an overview of the evolution of instructional leadership was depicted, followed by various instructional leadership models. The three leadership models that have been discussed were the instructional leadership models proposed by Hallinger and Murphy (1985), Murphy (1990) and Weber (1996).

Further literature on instructional leadership and effective school studies indicated that principals' leadership indirectly effected pupils' attainment. Moreover, a large-scale analysis of data obtained from OECD (2016) suggested that there is a moderate relationship ($r = 0.38$) between instructional leadership and students' achievement. However, a common limitation of most of the effective school leadership studies is that they are correlational and do not have any causal evidence to assess the real effect of leadership on students' attainment.

Chapter 4: Research Design and Methods

4.1 Introduction

This chapter describes the research design and methods associated with this study. The chapter begins with an overview of the research design used for each of the research questions, followed by a description of the participants and the development of the survey questionnaire for the primary data collection. After that, a detailed description of the data collection and data analysis methods relevant to each of the research questions will be provided. In addition to this, an explanation will be given on how ethical issues related to the study are dealt with to uphold the anonymity of the participants and to safeguard the findings of the study.

4.2 Research Design

The primary objective of this study is to investigate whether principals' instructional leadership can promote school effectiveness in the Maldives. There are various approaches for measuring school effectiveness. The most common of these is student academic achievement (Sammons et al., 1995; Botha, 2010). Therefore, this study will use students' secondary school completion examination results as an indicator of school effectiveness in the Maldives.

The design and method of data collection for the study is very much informed by each of the research questions. This is to ensure that the research questions can be adequately answered (Draper, 2004; Gorard, 2013; de Vaus, 2001; White, 2009). In this endeavour, a description of the various research designs and methods that are considered for each of the research questions of this study will be provided. See

Table 4.1 for a summary of the research design, types of data and data analysis techniques used in each of the research questions.

Table 4.1: Summary of Research Design, Data and Methods of Data Analysis

Research Question	Research Design	Data	Data Analysis
1. *What is the level of principals' instructional leadership practices in schools in the Maldives as identified by the Principals' Instructional Management Rating Scale (PIMRS)?*	Cross-sectional	Fieldwork data collected by using PIMRS developed by Hallinger (1990).	Percentages, mean, correlation and Cohen's effect size
2. *What is the level of existence of effective school correlates in schools in the Maldives?*	Cross-sectional	Fieldwork data collected by using staff perceptions of effective school components developed by Evers and Bacon (1994)	Percentages, mean, Cohen's effect size and Pearson correlation
3. *What is the relationship between principals' instructional leadership and the existence of effective school correlates in schools in the Maldives?*	Correlational	1. Data collected using PIMRS (developed by Hallinger (1990) 2. Data collected by using staff perceptions of effective school components (developed by Evers and Bacon (1994)	Pearson correlation and multiple linear regression
4. *To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?*	Causal-comparative	1. Fieldwork data 2. Longitudinal data of pupils' achievement (at primary and secondary) 3. School community data	Binary logistic regression

A detailed description of the design and methods associated with each of the research questions is given below.

4.2.1 Research Questions 1 and 2

- *What is the level of principals' instructional leadership practices in schools in the Maldives as identified by the Principals' Instructional Management Rating Scale (PIMRS)?*

- *What is the level of existence of effective school correlates in schools in the Maldives?*

The first two research questions of the study are designed to investigate the level of principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. For this purpose, a cross-sectional survey was conducted in all public secondary schools in the Maldives. One of the reasons why I chose to use a cross-sectional design is that it provides a 'snapshot' of the entire population at a given time (Sobol, 2004; Levin, 2006). Therefore, data collected from the entire population of teachers will provide information regarding principals' practices of instructional leadership and the existence of effective school characteristics in all the government-run secondary schools in the Maldives.

This study used secondary students' attainment in 2016 as an indicator of school effectiveness. Moreover, these students are the only cohort that had records of their prior primary attainment available in the Ministry of Education at the commencement of this study. Therefore, to investigate the contribution of principals' instructional leadership to individual students' attainment, I was

compelled to conduct the survey in 2016, as this was the only way that would enable me to link the data of principals' instructional leadership and students' attainment at both primary and secondary level.

Data related to principals' instructional leadership was collected by using a survey questionnaire, which was developed based on Hallinger's (1990) Instructional Management Rating Scale (PIMRS). The effective school questionnaire items were adapted from the work of Evers and Bacon (1994) entitled *Staff perception of effective school components*. A review of the questionnaire items indicated that these items were developed based on the effective school characteristics identified by Lezotte (1991).

Data obtained from the survey was used to check the level of principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. In addition to this, an investigation was conducted to check whether teachers' demographic information (i.e. gender and qualifications) was linked to how they rated their principal's ability to demonstrate instructional leadership in school and the existence of effective school characteristics.

4.2.2   Research Question 3

The third research question of the study is:

- *What is the relationship between principals' instructional leadership and the existence of effective school correlates in schools in the Maldives?*

The purpose of this research question is to identify whether the principals' instructional leadership has a role in creating a type of learning environment that is

claimed to have a positive impact on students' attainment. The correlational research approach is used to check whether there is any relationship between teachers' reports of their principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. At this point, it is crucial to recognise that instructional leadership is one of the characteristics of an effective school (Lezotte, 1991). Therefore, to avoid any possibility of a higher intercorrelation due to a shared item between the two variables, the instructional leadership dimension is omitted from the effective school characteristics.

After this, the aggregated mean score obtained for instructional leadership and effective school correlates are used in a Pearson correlation analysis. This is to identify whether teachers' reports on their principals' instructional leadership have any relationship with teachers' perception of the existence of effective school characteristics in secondary schools in the Maldives. In addition to this, linear regression modelling is employed to check whether the existence of effective school characteristics can be predicted from the principals' instructional leadership.

4.2.3   Research Question 4

The fourth research question of the study is:

- *To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?*

The objective of this research question is to evaluate the extent to which instructional leadership contributes to school effectiveness by improving pupils' academic attainment in the secondary school completion examination in the Maldives. For this purpose, attainment data of students were obtained from the

Ministry of Education. These students completed their national assessment at primary level in 2009. Students' secondary school attainment data is used to create a binary variable based on the criteria of the 60 per cent pass policy (Ministry of Education, 2009b). By taking this policy into consideration, students with five or more passes in the secondary school completion examination are considered as a "pass", and students who did not meet this criterion are considered as a "fail". A causal-comparative research design is used to link the binary variable of students' secondary attainment with the following data.

- **Principals' instructional leadership:** Survey data collected from the teachers about their principal's leadership. Teachers were asked to provide information about how their principal demonstrated instructional leadership as identified by PIMRS. Teachers' reports on ten instructional leadership job functions are used to find the mean of principal instructional leadership at the national level.

- **Effective school characteristics:** Survey data about how teachers perceive the existence of effective school characteristics in their school. This data was mainly based on the effective school characteristics identified by Lezotte (1991). Teachers' reports on effective school characteristics are used to compute the mean of the existence of effective school characteristics in the Maldives.

- **Data related to teachers:** These are demographic pieces of information about teachers that were collected from the survey. They include the level of their teaching qualification and the number of years worked in the educational field (experience).

- **Student-level data:** These are secondary-level data obtained from the Ministry of Education. They include students' attainment data at both primary and secondary levels. The binary variable created by using the secondary data is used as the dependent variable in the logistic regression. In addition to this, students' genders and ages in months are also used in the data analysis.

- **School community:** The reason for the use of the school community variable was the unavailability of individual students' background data such as family income and educational level of parents. Because of this, the income and educational level of the school community are used as proxy data to explain the influence of SES on students' secondary attainment in the Maldives. On request, the National Bureau of Statistics provided the data of community employment and the percentage of the population with secondary education on each island. In addition to this, data from the National Human Development Report (NHDR) of the Maldives 2014 are also used in this study. The data taken from the NHDR included the percentage of the population with at least secondary education and the estimated income level of the eight school zones. The zonal income data reported in the NHDR is primarily based on the second Household Income and Expenditure Survey (HIES) conducted in the Maldives (Department of National Planning, 2014).

The above data are used to create a logistic regression model that may be employed in explaining the contribution of principals' instructional leadership in the presence

of the independent variables considered in the study. Figure 4.1 illustrates how the variables are organised in the binary logistic regression model.

Independent variables

```
┌─────────────────────────┐
│ Community factors       │
└─────────────────────────┘
┌─────────────────────────┐
│ Teacher factors         │
└─────────────────────────┘
┌─────────────────────────┐
│ School factors          │
└─────────────────────────┘
┌─────────────────────────┐
│ Student factors         │
└─────────────────────────┘
┌─────────────────────────┐
│ Instructional leadership│
└─────────────────────────┘
```

Dependent variable

```
┌───────────────────────────────┐
│ Secondary data                │
│ Students' attainment          │
│ (based on 60% pass policy)    │
├───────────────┬───────────────┤
│   Pass        │    Fail       │
└───────────────┴───────────────┘
```
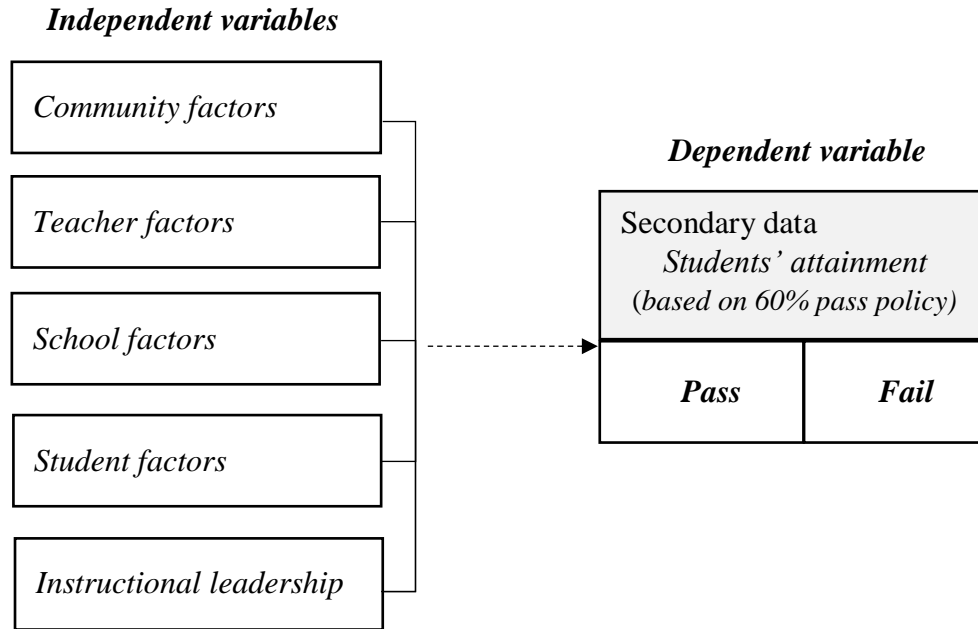
Figure 4.1: Organisation of data for Research Question 4

A causal-comparative research study involves comparing two groups to explain the real differences between them on variables of interest (Fraenkel & Wallen, 2006). There are some research studies that support the idea that causal-comparative design can suggest a causal claim (Fraenkel & Wallen, 2006; Charles, 1996; Gay, Mills, & Airasian, 2012). However, this study is non-experimental and does not involve any manipulation of variables. Therefore, the reason for using a causal-comparative approach for this research question is not to suggest a causal claim. This is because strong prediction, based on correlation alone, does not depend on a causal relationship, nor does it necessarily exhibit causation (Stangor, 2004; Gorard, 2001a; Johnson, 2000). The next part of the chapter describes the participants of this study.

4.3 The Participants

This is a population study that involves both primary and secondary data that are required to evaluate the research questions. Primary data was collected from the entire population of teachers working in all the government schools that offer secondary schooling in the Maldives. According to the Ministry of Education (2016b), there are more than 6,000 teachers working in 185 government schools that offer secondary schooling in the Maldives. The main purpose of taking such a large sample is to obtain accurate results that provide a more robust response to the research questions that are considered in this study (Gorard, 2001b).

Secondary data involves the full population of students who completed grade 4 in the year 2008. The reason for selecting these students was based on the availability of their primary and secondary school attainment data. In addition to this, data related to the employment and educational level of the school community were used as proxy indicators for the SES of the pupils. A description of the procedures that are related to the collection of the data is outlined below. However, before that, a description of the data collection tool and how it was developed is explained.

4.4 The Survey Questionnaire

A survey questionnaire was developed to collect data from teachers about their principals' instructional leadership and the existence of effective school correlates in their school. Questionnaire items related to instructional leadership are taken from Hallinger's (1990) PIMRS 2.0. The questionnaire items related to effective school characteristics are taken from Evers and Bacon's (1994) Staff Perception of Effective School components, which measure school improvement and

accountability. However, before data collection, the items were modified so that the questions were aligned with the language, cultural context and experience of teachers in the Maldives.

4.4.1 Principals' Instructional Management Rating Scale (PIMRS)

PIMRS is a questionnaire that is designed to collect information about principals' instructional leadership behaviours at school. The original version of PIMRS developed by Hallinger (1982) contained 11 subscales and 72 job functions. However, subsequent revision in later years reduced PIMRS to ten subscales and 50 items (Hallinger, 1990). PIMRS is designed to assess three broad dimensions of instructional leadership. They are: (1) defining the school mission; (2) managing the instructional programme; and (3) promoting a positive learning climate. Since its introduction in 1982, PIMRS has been used in more than 330 studies across the globe. This makes PIMRS one of the most widely used measure of principals' instructional leadership over the past 30 years (Hallinger, 2015).

The above dimensions are further categorised into ten specific instructional leadership job functions. Two functions, framing the school goals and communicating the school goals, comprise the dimension of defining the school mission. Managing the instructional programme incorporates three leadership job functions: supervising and evaluating instruction, coordinating the curriculum, and monitoring student progress. The third dimension, promoting a positive school learning climate, includes several functions: protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers and providing incentives for learning (Hallinger, 1990,

2011a). Figure 4.2 illustrates the PIMRS framework taken from Hallinger, Wang, and Chen (2013).

PIMRS Framework

Define School Mission	Manage Instructional Programme	Develop School Learning Climate
Frame school goals	Coordinate curriculum	Protect instructional time
Communicate school goals	Supervise and evaluate instructions	Provide incentives for teachers
	Monitor student progress	Provide incentives for learning
		Promote professional development
		Maintain high visibility

Figure 4.2: PIMRS framework

The following is a brief description of instructional leadership dimensions and specific leadership functions identified in PIMRS.

4.4.1.1 Dimension 1: Defining the School's Mission

This dimension of instructional leadership concerns the principal's role in working with staff to ensure that the school has a clear mission and to ensure whether the school's mission is focused on the academic progress of students. While the dimension does not assume that the principal defines the school's mission alone, it does assume that it is the principal's responsibility to ensure that such a mission exists and to communicate it widely to members of the school community. This

dimension is the starting point for creating a learner-centred school (Hallinger, 2008). The description of the two leadership job functions under this dimension is summarised in Table 4.2.

Table 4.2: Description of Instructional Leadership Job Functions under the Leadership Dimension of Defining the School Mission

Leadership Job Function	Description
Frame school goals	Refers to a principal's role in determining the areas on which school staff will focus their attention and resources during a given school year.
Communicate school goals	Concerned with how the principal communicates the school's essential goals to teachers, parents and students.

4.4.1.2 Dimension 2: Managing Instructional Programme

The second dimension in PIMRS is managing the instructional programme. This dimension is about the role of the principal in "managing the technical core" of the school (Hallinger, 2008, p. 7). This leadership dimension also emphasises that the principal is not the only person involved in developing the school's instructional programme. However, it does assume that the development of the academic programme of the school is a key leadership responsibility of the principal (Hallinger, 2008, p. 7). Instructional leadership job functions under this dimension are summarised in Table 4.3.

Table 4.3: Description of Instructional Leadership Job Functions under the Leadership Dimension of Managing the Instructional Programme

Leadership Job Function	Description
Supervise and evaluate instruction	Concerns the principal's role to ensure that the goals of the school are being translated into practice at the classroom level.
Coordinate the curriculum	Concerns the principal's role and support in establishing necessary interaction among teachers within and across grade levels for both instructional and curricular issues.
Monitor student progress	Principals discuss test results with grade-level staff and individual teachers. Moreover, they use test data to evaluate instructional effectiveness to bring about necessary changes to improve teaching and learning at school.

4.4.1.3 *Promoting School Learning Climate*

This instructional leadership dimension mainly concerns the principal's role in establishing a conducive learning environment at school (Hallinger, 2008, p. 7). Instructional leadership job functions under this dimension emphasise the notion that successful schools have a leader that promotes academic excellence through the development of high standards and cultivates a culture of continuous improvement (Hallinger, 2008, p. 7). Five instructional leadership job functions that belong to this dimension are summarised in Table 4.4.

Table 4.4: Description of Instructional Leadership Job Functions under the Leadership Dimension of Developing School Learning Climate

Leadership Job Function	Description
Protect instructional time	The principal exercises authority to establish and enforce policies that are essential to prevent interruption of classroom learning time.
Maintain high visibility	Visibility on the campus and in classrooms increases interaction between the principal and students as well as with teachers.
Provide incentives for teachers	Suggests that the principal should make the best use of both formal and informal ways of giving teachers praise when it is deserved.
Promote professional development	Concerns role of principals to facilitate relevant and meaningful opportunities for teacher development in schools, and support and assist in-service training that is available in other accessible places.
Provide incentives for learners	Concerns role of principals to create a school learning climate in which academic achievement is highly valued by students by providing frequent opportunities for students to be rewarded and recognised for their academic achievement and improvement.

4.4.2 Effective School Survey

The effective school survey items were adapted from Evers and Bacon's (1994) form entitled *Staff perception of effective school components as a means to school improvement and accountability*. This questionnaire was developed and tested in

schools across Florida, USA. Based on the analysis of data obtained from 829 respondents, the questionnaire presents a high-reliability coefficient of 0.97 and predictive validity of 0.49. A summary of the effective school characteristics considered in the effective school survey are given below.

- **Clear and Focused Mission:** In an effective school, the staff develop a clearly articulated mission focusing on successful learning for all students. Through collaboration, the staff form a shared understanding of and commitment to instructional goals, priorities, assessment procedures and accountability (Lezotte & Snyder, 2011).

- **Frequent Monitoring of Student Progress:** In an effective school, student progress is monitored frequently using a variety of assessment procedures. Assessment results are used to improve individual student performance and to adapt the instructional programme to meet student learning needs (Lezotte & Snyder, 2011).

- **Safe and Orderly Environment:** In an effective school, an orderly, purposeful and business-like atmosphere free from the threat of physical and emotional harm exists. The school culture and climate are conducive to teaching (Lezotte & Snyder, 2011).

- **Instructional Leadership:** In an effective school, the principal acts as an instructional leader by persistently communicating the mission to the staff, students, parents and wider community. The principal understands the principles of effective instruction and uses that knowledge in the management of the instructional programme (Lezotte & Snyder, 2011).

- **Opportunity to Learn and Students Time on Task:** In an effective school, teachers manage instructional time to ensure that, for a high percentage of time, students are actively engaged in teacher-directed learning activities focused on the essential skills. The meaning of this correlate is simple: students tend to learn the things on which they spend time (Lezotte & Snyder, 2011).

- **High Expectations for Success:** In an effective school, staff members believe that all students can and will obtain mastery of the intended curriculum and believe in their professional capacity to enable all students to achieve such mastery (Lezotte & Snyder, 2011).

- **Positive Home-School Relations:** In an effective school, parents and other members of the community are familiar with the school's mission, and the leadership provides a variety of opportunities for them to support the mission (Lezotte & Snyder, 2011).

4.4.3   Revision of the Survey Questionnaire

When the items within PIMRS and the Staff Perception of Effective School Components instrument were scrutinised, it was found that items in both questionnaires were ambiguous, loaded and double-barrelled. A number of the items also had cultural references or were written for an American audience. These items were rephrased and modified to suit the context of the Maldivian teachers. For example, the *faculty meeting* mentioned in the questionnaire is generally referred to as the "department meeting" in the Maldives.

In addition to these changes, the PIMRS was also changed from its original format. Hallinger's PIMRS collected information about the frequency with which each construct was observed. Since the aim of this study was to obtain participants' opinions or views, I have changed the response items to Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree, rather than Almost Never to Almost Always. According to Bertram (2007), the primary function of the Likert scale is to obtain participants' preferences or degree of agreement with a statement or set of statements. Therefore, with this change, the participants would get a better opportunity to provide responses based on their experience.

Similar to PIMRS, the effective school survey questionnaire was also modified. The number of items was reduced based on the existing literature on how each of the effective school correlates was defined. For example, items that were less likely to represent their respective effective school characteristics were excluded from the questionnaire. In addition to this, items were rephrased and simplified to avoid ambiguity found in the original version of the questionnaire. To test the validity and reliability of the questionnaire items, and also to ensure that the language, design and presentation of the questionnaires were appropriate for use with teachers in the Maldives, a pilot study was conducted.

4.4.3.1 Piloting the Survey Questionnaire for Primary Data Collection

The pilot study was conducted in five schools in Malé, the capital city of the Maldives. One of the aims of the pilot study was to rehearse the distribution of the questionnaire and to test the delivery and administration of the survey, but most importantly it was to trial the questionnaire items. This was to test the wording,

sequencing, comprehensibility, structure and presentation of the questionnaire. The

pilot study was conducted with teachers in Malé to ensure that the participants were

as similar as possible to those in the main study.

The pilot schools were selected with the assistance of the Teachers Association of

Maldives (TAM). In each of the selected schools, there was a member of TAM who

volunteered to conduct the survey as a research assistant in their respective school.

Altogether, there were 565 teachers in the five schools. Questionnaires were

distributed to the school by the research assistant to all the teachers and one week

was given for them to return the completed questionnaire. A total of 450 teachers

in these schools completed and returned the questionnaire, representing a response

rate of over 79 per cent. Table 4.5 summarises the number of responses received

from each school.

Table 4.5: Response Rate of Pilot Study

School	Number of Teachers	Number of Responses	Percentage Response
1	117	91	77.78
2	89	82	92.13
3	133	115	86.47
4	137	107	78.10
5	89	55	61.80
Total	**565**	**450**	**79.65**

The pilot survey questionnaire consisted of 70 Likert scale items with ratings from

1 to 5. The first 40 items were about principals' instructional leadership, and the

remaining 30 items were about effective school correlates. In addition to this, a

further eight items were included to gather background demographic information of the participants and their principal.

To test the construction and coherence of the questionnaire, principal component analysis (PCA) was conducted (Rattray & Jones, 2007). According to Streiner (1994), a sample of 565 with 450 responses is large enough to conduct PCA with a questionnaire of 78 items. PCA was conducted separately for both instructional leadership and effective school questionnaire items. Each analysis was performed using PCA with a rotation method of Varimax Kaiser normalisation, and the coefficient loading threshold level was set up to 0.3. After that, a series of PCAs were conducted, and a pattern matrix was obtained for both instructional leadership and effective school characteristics. The results of the PCAs are given below.

Instructional Leadership Survey Items

There is a total of 40 items in the pilot study questionnaire. The results of the PCA shows that a total of ten factors were extracted. Moreover, it was also found that the questionnaire items had a cumulative variance percentage of 0.73. This indicated that the questionnaire could explain the variance of over 73 per cent in principals' instructional leadership in the Maldives.

Given the above results, a decision was made to remove the item with the lowest coefficient from each of the instructional leadership job functions. The aim of this decision was to make the survey questionnaire shorter and also to make it easy for the participants to complete it. With this change, a total of ten items were removed from the pilot study questionnaire (see Table 4.6).

Table 4.6: Matrix of Instructional Leadership Items

Leadership Job Function	Item #	Factors									
		1	2	3	4	5	6	7	8	9	10
Frame school goals	1			.78							
	2			.86							
	3			**.56**							
	4			.63							
Communicate school goals	**5**									**.55**	
	6									.60	
	7									.78	
	8									.74	
Coordinate curriculum	9						.78				
	10						.87				
	11						.75				
	12						**.67**				
Supervise and evaluate instruction	13								.79		
	14								.84		
	15	**.52**									
	16								.54		
Monitor student progress	17	.77									
	18	.81									
	19	.71									
	20										**.65**
Protect instructional time	21										.67
	22										.82
	23										**.54**
	24										.57
Maintain high visibility	25					.69					
	26					.79					
	27					.63					
	28					**.38**					
Provide incentives for teachers	**29**				**.33**						
	30				.61						
	31				.81						
	32				.75						
Promote professional development	**33**		**.56**								
	34		.77								
	35		.81								
	36		.67								
Provide incentives for learning	**37**							**.41**			
	38							.62			
	39							.82			
	40							.79			
Eigenvalue		2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.0	2.0	1.9
Variance percentage		8.5	7.9	7.8	7.6	7.4	7.3	7.0	6.9	6.7	6.4
Cumulative percentage		8.5	10.4	24.1	31.7	39.1	46.4	35.4	60.3	67.0	73.4

Note: Shaded rows represent the least loaded item and items removed from the pilot study questionnaire.

After removal of those items, the questionnaire was tested for its reliability by using the Cronbach alpha coefficients. This is to test the internal consistency of the questionnaire items. The Cronbach alpha coefficients for all the instructional leadership items are above 0.71. This indicates that the items are generally measuring similar constructs. The result of the reliability test is shown in Table 4.7.

Table 4.7: Reliability of Instructional Leadership Survey Items

#	Instructional Leadership Job Function	Reliability*
1	Framing school goals	0.81
2	Communicating school goals	0.76
3	Supervising and evaluating instruction	0.77
4	Coordinating curriculum	0.71
5	Monitoring student progress	0.84
6	Protecting instructional time	0.74
7	Maintaining high visibility	0.74
8	Providing incentives for teachers	0.82
9	Promoting professional development	0.82
10	Providing incentives for learning	0.81

Reliability estimates are Cronbach alpha coefficients

Effective School Survey Items

Like the principal instructional leadership survey items, PCA was used to test the construction of 21 effective school survey items. The result indicated that there is a total of seven factors that can explain more than 73 per cent variance in the existence of effective school characteristics in public secondary schools in the

Maldives. Table 4.8 shows the result of PCA and the pattern matrix obtained for the effective school survey items.

Table 4.8: Matrix for Effective School Survey

Effective School Correlate	Item #	Factors						
		1	2	3	4	5	6	7
Clear and focused mission	41				.79			
	42				.83			
	43				.64			
	44							
Frequent monitoring of student progress	45	.76						
	46	**.68**						
	47	.76						
	48	.80						
Safe and orderly environment	49							.80
	50							.75
	51							.56
	52							**.38**
Instructional leadership *	53			.80				
	54			.85				
	55			.69				
	56			**.62**				
Opportunity to learn and Student time on task	57		.84					
	58		.82					
	59		**.72**					
	60		.75					
Climate of high expectations	61					.78		
	62					.88		
	63					.70		
	64					**.59**		
Positive home-school relations	**65**						**.52**	
	66						.83	
	67						.81	
	68						.70	
Eigenvalue		2.5	2.4	2.32	2.2	2.1	2.1	1.8
Variance percentage		12.0	11.4	11.0	10.4	10.2	10.0	8.7
Cumulative percentage		12.0	23.4	34.4	44.8	55.0	65.0	73.7

Note: Shaded rows represent the least loaded items and items removed from the pilot study questionnaire.

* Excluded in the analysis to avoid higher intercorrelations due to shared items

After the removal of the items with lowest coefficients from each of the effective school characteristics, the questionnaire was tested for its reliability by using the Cronbach alpha coefficients. The results indicated that the Cronbach alpha coefficients for all the effective school survey items were above 0.73. This suggests that the items were measuring similar constructs. The result of the reliability test is shown in Table 4.9.

Table 4.9: Reliability of Effective School Correlates

#	Effective School Correlates	Reliability*
1	Clear and focused mission	0.80
2	Frequent monitoring of student progress	0.87
3	Safe and orderly environment	0.73
4	**Instructional leadership****	**0.80**
5	Opportunity to learn and student time on task	0.82
6	Climate of high expectations	0.77
7	Positive home-school relations	0.76

Reliability estimates are Cronbach alpha coefficients
** Excluded from the study to avoid intercorrelation with PIMRS

With this, the questionnaire was finalised for data collection to gather information from teachers about their principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. The description of the data collection procedures is given below.

4.5 Data Collection

This part of the chapter describes the data collection methods used in the study. The study involves both primary and secondary data. The primary data are collected using a survey questionnaire while the secondary data are obtained from government authorities.

4.5.1   Survey Data

The survey was conducted in the Maldives from the first week of April 2016 to the end of May 2016. Survey questionnaires were sent to all the government-run secondary schools except the five pilot schools. The geographical dispersion of islands across the Maldives and huge expenses involved in travelling and the time that is required to travel to 180 islands made it impossible for me to go in person and conduct the survey in 185 schools. Therefore, I recognised that it was important to have a standard operating procedure (SOP) to conduct the fieldwork for primary data collection. The SOP provides procedures for the distribution and collection of the survey questionnaires in each school.

The first step required before data collection was to seek the approval of the Ministry of Education so that the survey could be conducted in government-run schools (see Appendix B for the approval letter received from the Ministry of Education). Questionnaires were printed and sent to appointed atoll-level coordinators, who then distributed and collected the questionnaires on their respective atoll. The questionnaires that were sent by the atoll-level coordinators were collected by appointed research assistants from each school who then

distributed them among the schoolteachers. Table 4.10 summarises the SOP that was used to conduct the fieldwork.

Table 4.10: Summary of the SOP Used to Conduct the Fieldwork

Step	Actions Taken
1	Approval from the Ministry of Education for data collection
2	Appointing atoll coordinators to distribute the survey questionnaires on their respective atoll
3	Selecting a research assistant from each school (total of 180 schools)
4	Printing and packing of the survey questionnaires
5	Dispatching the survey questionnaires to atoll-level coordinators on each of the 20 atolls
6	Distribution of survey questionnaires to schools on the islands within the atoll by atoll ferry
7	Distribution of survey questionnaires to schoolteachers by research assistants in each school
8	Collection of completed survey questionnaires from teachers
9	Questionnaires sent back to atoll coordinators
10	Returned questionnaires sent back to Malé by atoll coordinators

As the islands are separated by the sea, except for the islands where there is an airport, all the survey questionnaires were sent by ferry. As a precautionary measure to protect the questionnaires from water damage in transit, questionnaire packs were sealed in labelled waterproof plastic bags. During May, the sea was particularly rough. As a result, only 160 schools out of 180 schools were able to return the completed questionnaires. To get the questionnaires from the remaining 20 schools

(on 20 islands), special work was carried out with the assistance of TAM. With this extra effort, the questionnaires from all the 180 schools were collected in June 2016.

4.5.1.1 Survey Response Rate and Missing Data

To conduct the fieldwork, questionnaires were given to 5,482 teachers working in the 180 schools that offer secondary schooling in the Maldives. The number of completed questionnaires received was 4,473. Therefore, the average response rate of the fieldwork survey was 81.59 per cent. To include all the secondary schools in the study, data obtained from the five pilot schools can be added to the fieldwork dataset. With that, the total number of teachers in all 185 schools was 6,047, and completed questionnaires were received from 4,922 teachers, giving a response rate of 81.39 per cent. Table 4.11 summarises the response rate and atolls that represent each school zone. Out of the eight school zones, the highest response was received from Zone 7 (87.06%), while Zone 5 returned the lowest response rate (75.61%). No specific reason was identified for this difference in teachers' response rate in these zones.

Table 4.11: Fieldwork Response Rates

Zone	Atolls in Zone	Response Rate
Zone 1	Haa Alf, Haa Dhaalu and Shaviyani	86.69
Zone 2	Noonu, Raa, Baa and Lhaviyani	79.85
Zone 3	Kaafu, Alif Alifu, Alifu Dhaalu and Vaavu	81.84
Zone 4	Meemu, Faafu and Dhaalu	80.22
Zone 5	Thaa and Laamu	75.61

Zone	Atolls in Zone	Response Rate
Zone 6	Gaafu Alifu and Gaafu Dhaalu	79.44
Zone 7	Gnaviyani and Seenu	87.06
Zone 8	Malé (capital of the Maldives)	79.91
Total		81.40

4.5.2   Pupils' Attainment Data

Students' primary achievement data comprises the Mathematics and English Language results of the national assessment conducted by the Educational Supervision and Quality Control Division (ESQID) of the Ministry of Education in 2009. These data are linked with the students' secondary school completion examination results, obtained from the Ministry of Education. This examination comprises both the Cambridge O-level examination and the local Secondary School Certificate (SSC) examination. In the Maldives, students are required to do six Cambridge O-level subjects and Islamic studies and Dhivehi language in the local SSC examination. The purpose of linking these two datasets is to analyse the data for Research Question 4.

Records of the students' primary school attainment indicated that 5,413 students took part in the 2009 national assessment. However, during the data linking process, it was found that out of these 5,413 students, only 4,202 took part in the secondary school completion examination. This indicated that, for some reason, over 22 per cent of the students did not take the secondary school completion examination.

Table 4.12 shows the number of students in eight school zones with the dropout percentages.

Table 4.12: Numbers of Students and Dropout Percentages in Each Zone

Zone	Atolls in Zone	No. Students Primary	No. Students Secondary	Dropout %age
Zone 1	*Haa Alf, Haa Dhaalu and Shaviyani*	949	722	23.92
Zone 2	*Noonu, Raa, Baa and Lhaviyani*	894	740	17.23
Zone 3	*Kaafu, Alif Alifu, Alifu Dhaalu and Vaavu*	490	391	20.20
Zone 4	*Meemu, Faafu and Dhaalu*	299	218	27.09
Zone 5	*Thaa and Laamu*	420	297	29.29
Zone 6	*Gaafu Alifu and Gaafu Dhaalu*	490	370	24.49
Zone 7	*Gnaviyani and Seenu*	473	431	8.88
Zone 8	*Malé (capital of the Maldives)*	1,398	1,033	26.11
Total		5,413	4,202	22.37

One of the likely reasons could be that these students were eliminated from taking part in the examination at school level due to their lower attainment. By doing this, the school would have a better chance of achieving the goal of the 60 per cent pass policy. No specific reason was identified for dropout rates in different zones. Also, there is no indication that pupils' dropout rate has any relationship with income or educational level of the school zone ($r = -0.01$ and 0.05 respectively).

4.5.3   School Community Indicators

In addition to students' primary attainment data, requests were made to obtain students' individual family background and socioeconomic data from the National Bureau of Statistics (NBC). However, the internal policies of the NBC do not permit the sharing of such personal data. As a result, no information relating to individual students' SES was available. At this point, I would like to specify that in the Maldives, except for five islands, all the remaining islands have only one school. Because of this, regardless of individual students' SES and family background, students residing on the same island should attend the island school. Therefore, in the absence of individual students' data, community indicators such as the employment rate, island educational level and school zone income index are used to assess the net contribution of instructional leadership to school effectiveness.

4.6 Data Analysis

This study used the Statistical Package for Social Science (SPSS) version 21.0 to analyse the data. The survey data of principals' instructional leadership and effective school characteristics were fed into SPSS by considering 1 as *Strongly Disagree*, 2 as *Disagree*, 3 as *Neutral*, 4 as *Agree* and 5 as *Strongly Agree*. Except for students' academic attainment data, all the data are entered as received from the authorities concerned. The following subsections describe the statistical methods used to analyse data for each of the research questions.

4.6.1   Coding and Organisation of the Data

Before analysis, data were coded and organised to avoid statistical inaccuracies and errors. To safeguard the identity of the participants, all the information that could

lead to participants' identification were removed from both survey and pupil datasets. In place of the name of the school, a number from 1 to 185 was allocated to each school. In addition to this, school zones were also labelled as Zone 1, Zone 2 and so on. Table 4.13 summarises how codes were assigned to each school zone.

Table 4.13: Data Coding for School Zones

Code/Zone	Atolls in Zone
Zone 1	Haa Alf, Haa Dhaalu and Shaviyani
Zone 2	Noonu, Raa, Baa and Lhaviyani
Zone 3	Kaafu, Alif Alifu, Alifu Dhaalu and Vaavu
Zone 4	Meemu, Faafu and Dhaalu
Zone 5	Thaa and Laamu
Zone 6	Gaafu Alifu and Gaafu Dhaalu
Zone 7	Gnaviyani and Seenu
Zone 8	Malé (capital of the Maldives)

Since the study involves multiple datasets, the data coding approaches used for each of the datasets are discussed separately.

4.6.1.1   Coding of Survey Data

Once the questionnaires were returned, they were counted and collated based on their respective school. For this task, a room with eight computers was set up, and people were hired on an hourly basis to enter the data into a Microsoft Excel worksheet designed to store the data. These were password encrypted. A coding sheet was developed and used to enter the data. The first 51 items of the survey

questionnaire were Likert scale items with responses ranging from 1 to 5. Participants were asked to choose only one response. Where participants selected more than one response for an item, the highest rating was taken as the answer. For these items, the coding was straightforward, with 1 being "Strongly Disagree" and 5 "Strongly Agree".

Questions on background data (items 52, 53, 54, 56 and 57) were coded thus:

- For gender: 1 for female and 2 for male

- For teachers' qualifications: 1 for an untrained teacher; 2 for certificate level (GCE A-level); 3 for diploma level; 4 for degree level; and 5 for postgraduate level.

4.6.1.2   Coding of Students' Attainment Data

These data consisted of pupils' attainment data from the national assessment conducted by the Education Supervision and Quality Improvement Division of the Ministry of Education. The national assessment was intended to evaluate students' learning outcome in grade 4. The dataset received contained the results of English Language and Mathematics. The total marks given for the English Language paper were 40 and for Mathematics were 45. Therefore, for fair representation, marks obtained by the students were converted into percentages. These data are linked with students' attainment in the secondary school examination. The raw dataset of pupils' secondary school examination results uses letter grades, e.g. A/A*, B, C and D, and each of these grades is allocated points using a point conversion metric developed by the Ministry of Education (Ministry of Education, 2016c). Table 4.14 shows how grades are coded based on this policy of the Ministry of Education.

Table 4.14: Conversion of Examination Grades to Points

Exam Grade	Score (Code)	Binary Code	Pass/Fail
A/A*	12	1	Pass
B	9	1	Pass
C	5	1	Pass
D	0	0	Fail
E	0	0	Fail
U	0	0	Fail
X	0	0	Fail

Students must gain grades A–C in five or more subjects to be considered to have passed the secondary school leaving examination.

One of the key issues faced in dealing with pupil attainment data concerned the missing students' secondary school attainment data. The Ministry of Education has a policy that examination fees are paid by the government. However, to be eligible for these fees to be paid by government, students are required to obtain at least 40 marks in the final examination in grade 9 or in the first term examination in grade 10 (Ministry of Education, 2008a). Therefore, it is likely that the students missing from the secondary examination are those who could not meet this criterion. There is also a possibility that the school may discourage low-achieving students from taking part in the secondary school examination, even if the parents are willing to pay for it. This is because the removal of these students from the statistics will give

schools better prospects of achieving a higher score at national level. However, the practice of exclusion of pupils studying in private-sector schools may be different from that in government-run schools.

As mentioned earlier, the secondary school results are used as an indicator for school effectiveness, and a binary variable was created by using the secondary school attainment based on the 60 per cent pass policy. This means that students who obtained a pass in five or more subjects are considered as passes; moreover, their attainment was coded as 1. All the remaining students including the missing students are considered as fails and are coded as 0.

Initially, students were identified by their national identity (ID) number and school index number. After the dataset was checked for errors, students' ID numbers and school indices were removed, and numerical figures were allocated to code the students.

4.6.1.3   *Coding of School Community Data*

The school community dataset received from the National Bureau of Statistics (NBS) contained the educational level of the island community and the employment rate on each island. The employment rate was entered as received from the NBS. However, the data related to the educational level of the island was coded as follows (see Table 4.15).

Table 4.15: Coding of Education Levels

Code	Education Level
1	GCE O-level
2	GCE A-level
3	Diploma Level
4	Undergraduate Level
5	Postgraduate Level

After coding, the dataset was checked for errors and imported to SPSS for data analysis.

4.6.2 Key Decisions Made Before Analysing the Data

The following decisions were made before data analysis:

- **Not to use significance testing:** This is a population study that does not require any significance testing. It is common practice in the social sciences that these tests are reported with a p-value and confidence interval, also known as a significance test. But, because the study involves a population census that does not involve any random sampling, the use of significance testing would be inappropriate here. Also, even if random sampling was used, significance testing would still be inappropriate as it does not provide the answers that we want. What significance tests (p-value) could tell us is, given the null hypothesis, how likely we are to observe the results as extreme as the ones we have. But the answer that we want is, given the results that we have, how likely is the null hypothesis to be true. Much has

been written about the misinterpretation of significance tests (Gorard, 2016, 2010; Fidler, Thomason, Cumming, Finch, & Leeman, 2004; Cumming, 2014; White & Gorard, 2017). For these reasons, no significance test was performed, and no report of a p-value is presented in this study.

- **Missing cases in the survey data:** Over 18 per cent of teachers did not return the survey questionnaire. In addition to this, it was also found that over 22 per cent of the cases were missing in the students' secondary school attainment dataset. Non-responses can have a substantial impact on the findings of the study (Gorard, 2008), but due to the large sample size and significantly higher response rate, it was decided to leave the non-responses as blanks in the data file.

4.6.3 Data Analysis of Research Question 1

- *What is the level of principals' instructional leadership practices in schools in the Maldives as identified by the Principals' Instructional Management Rating Scale (PIMRS)?*

The answer to this research question was provided by using the teachers' responses to the instructional leadership survey. For this purpose, teachers' responses to individual items were aggregated to find out how principals demonstrate the ten instructional leadership job functions identified in PIMRS. The score for each of these functions was aggregated to find the mean and average percentages of instructional leadership at the national level.

Analysis was also conducted to see whether principals' personal characteristics, such as gender and work experience as a principal, made any difference in how their instructional leadership was reported. For this purpose, Cohen's d is used to summarise differences in leadership due to principals' gender. The following formula is used in this calculation (Cohen, 1992):

$$d = \frac{\overline{X}_{Male} - \overline{X}_{Female}}{S_P}$$

where:

d = Cohen's d

$\overline{X}_{Male}$ = Mean instructional leadership of male principals

$\overline{X}_{Female}$ = Mean instructional leadership of female principals

S_P = Pooled standard deviations for the two groups. The formula is: $\sqrt{[(s_1^2 + s_2^2)/2]}$

In addition to the analysis mentioned above, Pearson correlation was used to check whether there was any relationship between principals' experience (number of years worked as a principal) and ability to demonstrate instructional leadership.

4.6.4   Data Analysis of Research Question 2

- *What is the level of existence of effective school correlates in schools in the Maldives?*

Like Research Question 1, the average value of the existence of effective school characteristics was found by aggregating teachers' responses to the effective school survey items. These aggregated scores are used to check teachers' perceptions of the existence of effective school characteristics in secondary schools in the Maldives. In addition to this, analysis was conducted to check whether there was

any difference in teacher's perceptions based on gender, qualifications and work experience.

4.6.5   Data Analysis of Research Question 3

- *What is the relationship between principals' instructional leadership and the existence of effective school correlates in schools in the Maldives?*

To determine the relationship between principals' instructional leadership and effective school correlates, a Pearson correlation and multiple linear regression analysis were conducted.

A correlation was completed between the instructional leadership job functions identified by PIMRS and the mean school effectiveness reported by teachers. This is to identify whether principals' reported ability to demonstrate instructional leadership may have any association with the existence of effective school characteristics.

Further analysis using multiple linear regression was conducted to see how well principals' instructional leadership could predict the existence of effective school characteristics. Before the analysis could be conducted, a test of the assumptions for linear regression was carried out. There are four main assumptions that are considered in this study. They are:

- Assumption 1: Normality of regression residual

- Assumption 2: Linearity

- Assumption 3: Multicollinearity and singularity

- Assumption 4: Homoscedasticity

The results of the pre-analysis tests for these assumptions will be presented in Chapter 7.

The dependent variable used in the linear regression is the mean school effectiveness, and the *enter* method is used to input the independent variables into the regression model. These variables are the aggregated score of the ten instructional leadership job functions identified by PIMRS. Table 4.16 illustrates how variables are organised in the regression model.

Table 4.16: Data Organisation for Linear Regression

Independent Variables	Dependent Variable
Job function 1: *Frame school goals* Job function 2: *Communicate school goals* Job function 3: *Coordinate curriculum* Job function 4: *Supervise and evaluate instruction* Job function 5: *Monitor student progress* Job function 6: *Protect instructional time* Job function 7: *Maintain high visibility* Job function 8: *Provide incentives for teachers* Job function 9: *Promote professional development* Job function 10: *Provide incentives for learning*	*Mean school effectiveness*

4.6.6   Data Analysis of Research Question 4

- *To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?*

Research Question 4 explores the contribution of principals' instructional leadership on pupils' academic attainment in the secondary school completion examination. In addition to this, the data obtained from the fieldwork and data related to students' primary school academic achievement and school community are used to conduct binary logistic regression to create a model that can be used to understand the role of instructional leadership in the Maldives.

4.6.6.1   *Binary Logistic Regression*

Logistic regression analysis with the *enter* method of the predictor variables was used to analyse the predicted impact of principals reported instructional leadership on school effectiveness. In the *enter* method, variables in each block are entered in a single step. As a result, each predictor is assessed as though it were entered after all the other independent variables. Therefore, this method assesses the predictive ability of all independent variables considered in the model (Ntoumanis, 2003). By using this approach, analysis was conducted with contextual factors such as students' average primary school academic attainment, the levels of education and employment of the school community, and factors related to teachers including their experience and qualifications.

As mentioned earlier in this chapter, the students' secondary school attainment data were used as an indicator of school effectiveness. These data are used to create a dichotomous variable based on the 60 per cent pass policy of the Ministry of

Education (Ministry of Education, 2009b). To do this, students who obtained a pass in more than five subjects in the secondary school completion examination are assigned a value of 1, and students who did not meet these criteria are assigned a value of 0. Table 4.17 illustrates how variables are organised in the binary logistic regression model.

Table 4.17: Organisation of Variables in the Binary Logistic Regression

Block	Independent Variables	Dependent Variable
1	**Community Factors** • Island employment • Island education level • Zone income • Zone education	
2	**Teacher Factors** • Teacher experience • Teacher qualification	**Students' Attainment** • Pass in five or more subjects • Pass in less than five subjects
3	**School Factor** • Mean school effectiveness	
4	**Student Factors** • Prior attainment in English Language • Prior attainment in Mathematics • Age in months • Gender	
5	**Instructional Leadership**	

The dependent variables were *entered* as five different blocks. The first block entered into the model was that containing the community variables, followed by that containing school contextual variables. These variables were common for all the students. After that, the block of variables related to pupils was entered to check the contribution of individual pupils to their attainment. The last block of variables in the regression model concerned instructional leadership. This is to test whether the addition of such variables into the regression model made any significant improvement to the fitness of the model.

The above setup was used to obtain three different regression models. The first logistic regression model was created by taking the full population of students. From the missing data, it is known that 1,211 students are missing from the secondary school attainment dataset. For this model, dropout students are considered as "fail". There is a possibility that these students were excluded on purpose to portray a higher pass percentage in the secondary school completion examination. If this is the case, the most justifiable decision is to consider the dropouts as students who did not receive five or more passes in the secondary school completion examination.

The second regression model was also created by taking the full population of students as the predictor variable. But this time, the dropout students were given the school average pass percentage. The assumption made in this model was that, if those students were in school, they would likely have achieved the average result obtained by the other students of the school. The third model was conducted by excluding the dropouts from the population of students. In each of the models, the

independent variables are the same and no change is made regarding how they are computed in the regression model.

Even though three different logistic regression models were created, the study would use the best fitting version that could explain the effect of five different blocks of independent variables over the dependent variable. In the case where the three models give similar or the same results, the model with the student population including dropouts would be chosen for the study. This decision was taken because the exclusion of dropouts in this situation might be unfair for the schools that did not force students to drop out to increase their pass percentage. In addition to this, exclusion of these students could also cause the loss of vital data that are related to the answers of the research questions.

4.7 Ethical Considerations

Before conducting the data collection and analysis for this study, it was ensured that the research was carried out in accordance with the ethical guidelines described by the British Educational Research Association (2011). To fulfil this obligation, the research ethics and data protection monitoring form was submitted to the Ethics Committee of the School of Education, and approval from the Ethics Committee was sought before any actual research work was conducted (see Appendix C for the ethical approval from the School of Education, Durham University).

As described earlier, the study involves four sets of data. The first set was gathered via the fieldwork survey questionnaire. Before the survey questionnaires were distributed in schools, consent from the Ministry of Education of the Maldives was sought (see Appendix B), and participants (teachers) were informed about the

voluntary nature of taking part in the survey. In addition to this, every possible step was taken to ensure the participants' anonymity, so that they could not be identified based on their responses.

The second and third sets of data used in the research are students' academic achievements at primary and secondary school level. The secondary school attainment data file received from the Ministry of Education consisted of students' personal data including name, date of birth and national identity number. This information was helpful in linking students' primary school results with their IGCSE result. All the information received from the Ministry of Education was kept in a password-encrypted file. Upon completion of merging the two datasets, all the personal information of students was removed from the file, and students were labelled by being given numbers. The fourth dataset concerns the school community; this data is obtained from NBS, which does not involve any personal data of the participants.

4.8 Summary

This chapter has described an overview of the research design and methods used to answer the four research questions of this study. A detailed description of the nature of the data and how data were collected is provided. This includes the development of the survey questionnaire and the pilot study and a description of the secondary data used in the study. In addition to this, various statistical models employed in this study are presented for each research questions. The chapter also addresses how ethical issues were dealt with to safeguard the participants and the students' information in the secondary dataset.

Chapter 5: Principals' Instructional Leadership Practice in the Maldives Through the Lens of Teachers

5.1 Introduction

This chapter presents findings and discussions related to the first research question of this study. The purpose of this research question is to identify the instructional leadership of principals working in secondary schools in the Maldives. For this purpose, analysis was conducted to find out how principals are reported to practice the ten instructional leadership job functions identified by PIMRS. In addition to this, an investigation was carried out to check whether there was any substantial relationship between principals' gender and experience with their ability to demonstrate instructional leadership in schools. All these analyses are based on teachers' responses to the survey questionnaire.

5.2 Instructional Leadership Dimension 1

The first dimension of instructional leadership is about the principal's role in defining the school mission. This dimension is to ensure that the school has a clear mission that is focused on the academic progress of students (Hallinger, Wang, Chen, & Liare, 2015). There are two instructional leadership job functions under this dimension. When the teachers' response to these two instructional leadership job functions were examined, it was found that 74 per cent of the teachers confirmed that their principal demonstrated the leadership job function of framing the school goals. One of the likely reasons why a large percentage of teachers acknowledged that their principal developed school goals could be the enforcement of Child-

Friendly Baraabaru Schools (CFBS) quality standards in the Maldives. According to CFBS, every school principal is responsible for formulating annual school goals by involving all stakeholders within the school community (Ministry of Education, 2010b). It was a coincidence that the first whole-school supervision carried out by ESQID using the CFBS was conducted in 2012 at Noonu Atoll Meyna School, where I was the principal at the time. From my experience as a principal, I would say that CFBS played a crucial role in alerting the school principals about the importance of a clear and focused school mission. Furthermore, the leadership dimension of CFBS encouraged principals to involve members of the school community in formulating school goals (Ministry of Education, 2010b). Teachers' response to the instructional leadership dimension defining school mission is shown in Table 5.1.

Table 5.1: Teachers' Responses to Instructional Leadership Dimension 1 in Percentages

Instructional Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
JF1: Frame school goals	2.40	7.62	15.82	50.17	23.98
JF2: Communicate school goals	5.67	15.46	21.03	40.88	16.95
D1: Define school mission	4.04	11.54	18.43	45.53	20.47

The leadership quality standard of CFBS also demands that the principals communicate school goals to the members of the school community (Ministry of Education, 2010b). However, the comparison of the two instructional leadership job functions in this dimension revealed that the leadership job function of framing

the school goals has a 16 per cent higher positive rating by teachers when compared with the leadership job function of communicating school goals.

The average percentage obtained by aggregating the two leadership job functions revealed that 66 per cent of the teachers believe that their principal demonstrates the instructional leadership dimension of defining the school mission. The percentage of teachers who expressed that their principal was not performing this instructional leadership dimension was 15 per cent. The above finding indicates that some aspects of the leadership and management dimensions of CFBS are being implemented in schools. However, a considerable amount of work still needs to be done for the proper implementation of CFBS quality indicators in schools to promote the instructional leadership skills of the principals.

5.3 Instructional Leadership Dimension 2

The second dimension of instructional leadership is managing the instructional programme. This dimension is mainly about the principal's role in improving school academic programmes (Hallinger et al., 2015). The findings related to the three instructional leadership job functions in this dimension indicated that nearly 74 per cent of the teachers reported that their principal supervised and evaluated the instructional activities of the school. This high rate of affirmative responses from teachers may be linked to the policy of school self-evaluation from the Ministry of Education. According to this policy, principals are required to observe activities related to classroom instructions and provide feedback to teachers about their classroom performance (Ministry of Education, 2010b).

The percentage of teachers responding positively about the leadership job function of coordinating the curriculum was slightly lower than that of supervising and evaluating instruction. The average percentage for this leadership job function was 70. The general practice in Maldivian schools is that almost every school conducts a weekly curriculum meeting among teachers to plan lessons for the coming week. Often these meetings are headed by a member of the Senior Management Team (SMT). Even though principals do not actively take part in the actual meeting, it is a common practice among principals to observe these meetings and gather information about curriculum meetings from members of the SMT. Therefore, it is presumed that teachers may have taken this practice of their principal into consideration when giving a higher affirmative rating for demonstrating this instructional leadership job function in school.

Several policies of the Ministry of Education recommend principals to monitor students' progress to evaluate the effectiveness of the instructional programmes of the school (Ministry of Education, 2010b, 2010c, 2010d). However, teachers rated the monitoring of students' progress as the lowest among the three leadership job functions under the dimension of managing the instructional programme. The average percentage of affirmative responses to monitoring of students' progress is 67 per cent. This shows that a considerable number of teachers take the view that their principal does not meet teachers individually to discuss students' progress. As a result, it is likely that many teachers may have considered that their principal does not perform this instructional leadership job function at a level that is required to reach the vital curricular goals of the school. The mean percentages obtained for

each of the instructional leadership job functions under this dimension are shown in Table 5.2.

Table 5.2: Teachers' Responses to Instructional Leadership Dimension 2

Instructional Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
JF3: Supervise and evaluate instruction	2.40	7.62	15.82	50.17	23.98
JF4: Coordinate curriculum	2.97	8.07	18.91	47.12	22.93
JF5: Monitor student progress	5.03	10.27	16.97	42.39	25.34
D2: Manage instructional programme	3.47	8.66	17.23	46.56	24.08

The average percentage of the three leadership job functions was computed to find the teachers' perceptions of the instructional leadership dimension of managing the instructional programme. The result shows that 70 per cent of the teachers said that their principals play an essential role in managing the instructional programme of the school.

5.4 Instructional Leadership Dimension 3

The third instructional leadership dimension identified by PIMRS is developing the school learning climate. This leadership dimension comprises five instructional leadership job functions. Among these functions, teachers reported that providing incentives for students is the most frequently demonstrated job function by school principals. There are several policies from the Ministry of Education to encourage schools to recognise students' achievements (Ministry of Education, 2000a, 2000b, 2000c). Because of this, every school has a special prize-giving ceremony to celebrate students' accomplishments. Often, these ceremonies are attended by

government ministers and the heads of the government institutions in the school community. Another possible reason could be the Ministry of Education's policy to recognise "top ten" achievers in both the secondary school completion examination and the higher secondary school completion examination, which is also known as the "top achievers' awards". It is a common practice for the President of the Maldives to take part in these ceremonies to distribute prizes and awards to the first prize winners. Generally, principals play an active role in organising these events. As a result, teachers may have considered all these factors to give a high rating to their principal for demonstrating this instructional leadership job function.

The second highest affirmed leadership job function that belongs to this leadership dimension is promoting professional development. The survey results show that two-thirds of the teachers said that their principals promoted the professional development of teachers at school. From the documents of the Ministry of Education, it is evident that before 2009, professional development activities were mainly aimed at providing essential skills to supervisors (now known as leading teachers). With the change of government in 2008, the newly elected MDP administration introduced the policy of professional development in 2009 (Ministry of Education, 2009c). According to this policy, the principal should play a vital role in conducting meaningful professional development programmes in association with the authorities concerned. To achieve the goal of this policy, the Ministry of Education also allocated three full days for teacher professional development during an academic year. In addition to this, the leadership and management dimensions of CFBS also required principals to demonstrate *instructional leadership* skills required to support the professional development of teachers

(Ministry of Education, 2010b). As a result, principals play an active role in the professional development activities of teachers at their school.

The instructional leadership job function of maintaining high visibility in the school was rated third in this leadership dimension. The results show that 62 per cent of the teachers affirmed that they observe this leadership job function from their principal (see Table 5.3). It was anticipated that teachers would rate this leadership job function as one of the most commonly demonstrated job functions by the principals. This was expected because the principals are required to conduct regular classroom observations and conduct feedback sessions with teachers (Ministry of Education, 2010b). However, this leadership job function is one of the least rated job functions among the ten job functions identified by PIMRS. Teachers' reports on individual questionnaire items revealed that nearly 50 per cent of the teachers said that their principal was visible in school during breaks and visited classrooms to discuss important school issues. However, over 80 per cent of the teachers reported that principals often attended to observe extra- and co-curricular school activities. This shows that principals working in secondary schools take a more active role in extra- and co-curricular activities than in observation of teaching and learning.

Table 5.3: Teachers' Responses to Instructional Leadership Dimension 3

Instructional Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
JF6: Protect instructional time	2.72	11.65	26.49	46.39	12.75
JF7: Maintain high visibility	5.72	13.01	18.99	39.20	23.08
JF8: Provide incentives for teachers	3.86	11.25	24.26	42.61	18.02

Instructional Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
JF9: Promote professional development	2.03	6.12	16.63	49.21	26.01
JF10: Provide incentives for learning	1.77	5.26	15.21	44.27	33.49
D3: Developing school learning climate	3.22	9.46	20.32	44.34	22.67

The findings of the survey indicate that only 60 per cent of the teachers agree that their principal has recognised their work. This may be an indication that a significant number of teachers consider that the importance of their work in school is not recognised. A similar finding is also reported in TALIS, which was conducted in 34 countries and involves 100,000 teachers (OECD, 2014).

Like teachers in many countries, Maldivian teachers also report that their work is undervalued in the education system. To address this issue, the Ministry of Education introduced the Teachers' Award in the year 2010. This award was aimed at recognising the outstanding service of teachers and making the public aware of the role of teachers in the community. However, the National Teachers' Award was called off within two years of its commencement. A review of more than 400 policy documents and circulars from the Ministry of Education revealed that numerous documents highlighted the responsibilities of teachers. However, there is not a single document that highlights the rights of teachers, except for documents relating to civil servants. As a result, it was predictable that many teachers feel that their work is undervalued and recognised neither in school nor at the community level.

With an affirmative rate of 59 per cent, teachers reported that the instructional leadership job function of protecting instructional time is rated as the least demonstrated job function by their principals. In the Maldives, it is not uncommon

to issue announcements during teaching time. Because of this, students are often distracted from the lesson. In addition to this, almost all government schools have open classrooms. As a result, if there is any activity on the school premises, this can easily distract students from their classroom activities. Moreover, a substantial number of teachers acknowledged that in their school they do not have proper policies to deal with tardy and truanting behaviour by students. In addition to this, a considerable number of school days are taken to celebrate several national and international events, such as International Children's Day and Teachers Day. All these may be reasons why many teachers said that their principals do not play a significant role in preventing disruption of instructional time in school.

The mean percentage of the leadership dimension of developing the school learning climate was found by aggregating the five leadership job functions in this leadership dimension. The result shows that 67 per cent of the teachers believe that their principal plays a key role in developing the school learning climate.

5.5 Instructional Leadership at National Level

Responses received from the teachers for the ten instructional leadership job functions were aggregated to find the average figure for principals' instructional leadership at the national level. The result shows that 67 per cent of the teachers affirmed that their principal practised instructional leadership (as identified by PIMRS) in the secondary schools of the Maldives. For further analysis, the mean score for principal leadership at the national level was calculated. The mean and standard deviation for instructional leadership at the national level is shown in Table 5.4.

Table 5.4: Mean Instructional Leadership at the National Level

Mean of Instructional Leadership	N	Mean	Standard Deviation
National level	4923	3.71	0.66

Based on the findings presented above, it can be concluded that a high percentage of teachers affirmed that principals demonstrate instructional leadership in secondary schools in the Maldives.

Analysis of teachers' responses based on their qualifications revealed that teachers with higher qualifications reported that their principal more often demonstrated instructional leadership in schools. The results of teachers' responses based on their teaching qualifications is shown in Figure 5.1.
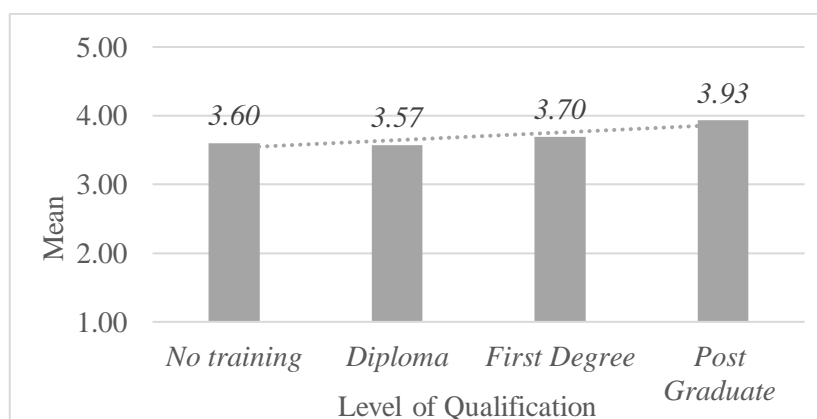
Figure 5.1: Teachers' reports based on teaching qualifications

Generally, in the Maldives, teachers with higher qualifications take greater responsibility and occupy SMT posts in higher proportions than those with lower qualifications. This may have provided better opportunities for teachers with higher qualifications to establish a more collegial relationship with the principals. As a result, it is more likely that these teachers perceived that their principal demonstrated instructional leadership in the school.

5.6 Principals' Personal Characteristics and Instructional Leadership

From the findings presented above, it is known that a high percentage of teachers reported that principals demonstrate instructional leadership in secondary schools in the Maldives. However, teachers' reports also revealed that there is nearly a 26 per cent variation in the principals' instructional leadership. Moreover, teachers with higher qualifications are more inclined to give a higher rating for their principal's instructional leadership. The following part of the chapter will examine whether the principal's personal characteristics, such as gender and experience, have any relationship with the ability to demonstrate instructional leadership.

5.6.1 Gender

The literature regarding the contribution of gender to leadership does not have any conclusive evidence (Epstein, 1988; Paustian-Underdahl, Walker, & Woehr, 2014). However, many studies claim female principals have better communication skills and are known to have a more collaborative leadership style than male principals (Eagly, Karau, & Johnson, 1992; Reynolds, White, Brayman, & Moore, 2008; Cristina & Anthony, 2005; Eagly & Carli, 2003). In addition to this, a meta-analysis of studies that have used PIMRS between 1983 and 2014 to evaluate the contribution of gender to leadership indicated that female principals engaged in a more active instructional leadership role than male principals (Hallinger, Dongyu, & Wang, 2016).

Teachers' reports on the survey questionnaire were used to analyse whether gender has any role on how principal demonstrate instructional leadership in the Maldives. The value of Cohen's *d* obtained for most of the instructional leadership areas

indicates that there is no meaningful difference between female and male principals in performing instructional leadership in secondary schools in the Maldives. However, the result also suggested that teachers viewed male principals as slightly better at performing the leadership job function of framing the school goals and providing incentives for teachers. This slight difference could be due to male dominance in school leadership positions in the Maldives. Cohen's d obtained for each of the leadership job area is shown in Table 5.5.

Table 5.5: Principals' Instructional Leadership and Gender

| Instructional Leadership | Male | | Female | | Cohen's |
	Mean	SD	Mean	SD	d
JF1: Frame school goals	3.88	0.82	3.76	0.82	0.26
JF2: Communicate school goals	3.48	0.89	3.47	0.85	0.01
JF3: Coordinate curriculum	3.67	0.84	3.65	0.81	0.02
JF4: Supervise and evaluate instruction	3.81	0.81	3.72	0.80	0.11
JF5: Monitor student progress	3.75	0.93	3.63	0.95	0.13
JF6: Protect instructional time	3.57	0.74	3.47	0.77	0.13
JF7: Provide incentives for teachers	3.64	0.84	3.49	0.87	0.18
JF8: Provide incentives for learning	3.62	0.91	3.52	0.92	0.11
JF9: Promote professional development	3.93	0.81	3.85	0.78	0.10
JF10: Maintain high visibility	4.03	0.79	4.01	0.76	0.03
D1: Define school mission	3.68	0.78	3.62	0.75	0.08
D2: Manage instructional programme	3.74	0.75	3.67	0.71	0.10
D3: Develop school learning climate	3.76	0.66	3.67	0.65	0.14
Instructional leadership (average)	3.73	0.67	3.65	0.63	0.11

5.6.2 Experience

The second personal characteristic considered in this study is the principal's experience (number of years worked in the profession as a principal). Bivariate correlation analysis was conducted to check whether there is any relationship between the principal's experience and demonstration of the instructional leadership job functions as identified in PIMRS.

Several findings support the idea that the principal's experience plays a positive role in demonstrating effective leadership in school (Spillane, Hallett, & Diamond, 2003; Valentine & Prater, 2011; Hitt & Player, 2018; Goldring, Huff, May, & Camburn, 2008). The results obtained from teachers' responses to the survey questionnaire also indicate that principals' experience is positively correlated to mean instructional leadership in the Maldives. Correlation analysis also revealed that the leadership dimensions of defining the school mission and developing the school learning climate had a weak positive relationship with principals' experience. However, the correlation coefficient obtained for the leadership dimension of managing the instructional programme does not show any meaningful correlation with principals' experience. The result also shows that principals who have served in their job for longer periods of time are reported to be better at working with teachers and other staff to establish a clear school mission and also at communicating school goals to the wider school community. In addition to this, the result also suggest that principals' experience has a positive link with their ability to create a successful learning climate in school. Table 5.6 shows the result of the correlation analysis between principals' experience and mean instructional leadership.

Table 5.6: Correlation between Principals' Experience and Instructional Leadership

Instructional Leadership	Correlation Coefficient (r)
JF1: Frame school goals	0.44
JF2: Communicate school goals	0.31
JF3: Coordinate curriculum	0.01
JF4: Supervise and evaluate instruction	0.26
JF5: Monitor student progress	0.02
JF6: Protect instructional time	0.13
JF7: Provide incentives for teachers	0.25
JF8: Provide incentives for learning	0.52
JF9: Promote professional development	0.22
JF10: Maintain high visibility	0.59
D1: Define school mission	*0.41*
D2: Manage instructional programme	*0.06*
D3: Develop school learning climate	*0.31*
IL: Average	*0.29*

Correlation analysis conducted with individual instructional leadership job functions indicates that principals' experience has a positive relationship with instructional leadership job functions as identified by PIMRS. This relationship is most visible with the instructional leadership job functions of framing the school goals, providing incentives for learning and maintaining high visibility.

5.7 Summary

The findings presented in this chapter affirmed that the majority of the teachers in the Maldives acknowledged that their principals demonstrate instructional leadership as identified by PIMRS. It can be argued that a higher rating from teachers for their principal's instructional leadership might be linked to the implementation of various policies by the Ministry of Education. In addition to this, it was also revealed that out of the three instructional leadership dimensions, managing instructional programmes is the most commonly demonstrated leadership dimension. The analysis conducted to check the impact of principals' personal characteristics revealed that male principals are regarded as slightly better at demonstrating instructional leadership than their female counterparts. In addition to this, it was also found that principals' experience has a positive relationship with the ability to demonstrate the instructional leadership job functions identified by PIMRS.

Chapter 6: Effective School Characteristics in the Maldives as Reported by Teachers

6.1 Introduction

This chapter presents findings and discussions related to the second research question of this study. The purpose of this research question is to examine the presence of effective school characteristics in secondary schools in the Maldives. In addition to this, explanation will be provided regarding the teachers' reports on individual effective school characteristics considered in this study. Moreover, analysis is conducted to check whether these teachers' reports are related to teacher qualification, teacher experience and community factors such as income and educational level of the community.

6.2 Teachers' Responses to Effective School Characteristics

Teachers' reports on individual effective school characteristics in the survey questionnaire were analysed to find out their perception on the existence of effective school characteristics in secondary schools in the Maldives. For this purpose, participants' responses were aggregated to calculate the average percentage for each effective school correlate. Findings and discussions related to each of the effective school characteristics are presented below.

6.2.1 Clear and Focused School Mission

The first effective school correlate considered in this study is about the clear and focused mission. When the participants' responses to this effective school correlate were analysed, it was found that 84 per cent of teachers acknowledged that there

was a clear and focused mission in their school. Participants' responses on the effective school correlate of a clear and focused mission in percentages is shown in Table 6.1.

Table 6.1: Participants' Responses on Clear and Focused School Mission in Percentages

Effective School Correlate	Participants' Responses in Percentages				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
Clear and focused school mission	0.82	3.28	11.55	53.06	31.28

This shows that most teachers agree that there is a clearly articulated mission through which teachers share a common goal for the betterment of the school. As explained in Chapter 5, it is likely that enforcement of the leadership dimensions of CFBS may have played a role in teachers' affirmative response to the existence of this effective school characteristic. In addition to this, the introduction of school boards in 2009 may also have played a role in a large percentage of teachers affirming that their schools have a clear and focused school mission. One of the critical functions of the school board was to develop written short-term and long-term goals in collaboration with the active participation of all the stakeholders of the school community (Ministry of Education, 2009d, 2010b, 2011, 2012). This encouraged school boards to organise events and programmes among members of the school community to discuss how the school mission and vision was related to learning and the wider educational goals of the school. Moreover, schools were encouraged to display mission and vision statements on the school premises so that

the entire school community would be informed about the fundamental goals of the school (Ministry of Education, 2010b).

6.2.2 Frequent Monitoring of Students' Progress

The second effective school correlate is frequent monitoring of students' progress in school. Teachers' responses to questionnaire items related to this effective school correlate indicated that 83 per cent of teachers confirm that students' progress is frequently monitored in their school. Participants' responses on this effective school correlate is shown in Table 6.2.

Table 6.2: Participants' Responses on Frequent Monitoring of Student Progress in percentages

Effective School Correlate	Participants' Responses in Percentages				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
Frequent monitoring of student progress	0.54	3.64	12.76	52.38	30.68

It was found that teachers' responses on this effective school correlate were also fairly high. One primary reason for the higher affirmative response from teachers may be related to various assessment policies from the Ministry of Education (Ministry of Education, 1994a, 1995a, 2000d, 2008b, 2014, 2015, 2016d). Analysis of these policy documents shows that before the year 2000, assessment guidelines were not clear. As a result, summative assessment method was mainly used to assess the learning outcome of students. In addition to this, changes brought to the monitoring of students' academic progress before 2015 had little impact on the

assessment process. However, with the implementation of the new national curriculum in 2015, the Ministry of Education has adopted more formative assessment methods to assess the learning outcome of students. In this endeavour, the Ministry of Education has decided that all the learning outcomes of Key Stage 1 and Key Stage 2 should be assessed by using assessment for learning (Ministry of Education, 2014, 2015, 2016d). In addition to this, it was decided that at least 40 per cent of the learning outcomes in Key Stage 3 to Key Stage 5 should also be carried out by using formative methods such as assessment for learning (Ministry of Education, 2014). These changes were helpful for teachers to shift their assessment methods towards a more learner-centred approach. Therefore, more comprehensive and meaningful assessment approaches were put into practice in all government schools. It must be noted that the data collection for this study was carried out during the implementation process of the new assessment methods mentioned above. Therefore, it is highly likely that teachers may have considered this change in assessment policies in giving a higher affirmative rate for the existence of this effective school characteristic in their school.

6.2.3 Safe and Orderly Environment

The effective school correlate of a safe and orderly environment is one of the most essential characteristics of an effective school. This is because, without a sense of safety and security, it would be difficult for students and teachers to actively engage in learning and teaching (Lezotte, 1991; Scheerens, 1992; Hays, 2011; Waters & Marzano, 2003; Dunsworth & Billings, 2013). The survey results show that over 80 per cent of teachers consider that their school has a safe and orderly atmosphere

that is conducive to learning and teaching. Teachers' responses on the safe and orderly environment are shown in Table 6.3.

Table 6.3: Participants' Responses on Safe and Orderly Environment in Percentages

| Effective School Correlate | Participants' Responses in Percentages | | | | |
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Safe and orderly environment	1.80	5.10	12.97	42.79	37.35

Since the introduction of formal education, there has not been a single major incident that threatened the safety of the school environment in the Maldives. However, there were a few cases where teachers used some form of physical punishment to rectify students' misbehaviour at school. Because of this, in 1990, the Ministry of Education prohibited the use of any form of physical or emotional punishment against students. In addition to this, a circular was issued to assess the condition of the school premises to avoid any harm that could be caused by the school's physical infrastructure (Ministry of Education, 1995b).

In a more recent effort to strengthen the safety and well-being of the school environment, the Ministry of Education made *health and safety* one of the quality standards of CFBS. One of the primary aims of the health and safety standards was to create a caring, trustworthy and friendly school environment that foster good relationships among staff, students and the members of the school community (Ministry of Education, 2010e). Moreover, several nationwide activities were conducted to train teachers and other members of the school community to spread awareness regarding the ways in which to protect children from any form of abuse,

such as bullying and neglect, both in school and in the community (Ministry of Education, 2010e). In addition to these policies, to safeguard the school environment, there is a School Emergency Operations Plan (SEOP) which is designed to protect schoolchildren and members of the school community in the event of an emergency (Moosa, Abdulla, & Ahmed, 2009). All these policies required teachers to actively take part in carrying out safety-related procedures in the school. Therefore, it could be assumed that teachers may have perceived that their schools were safe and free from harmful activities that might prevent effective teaching and learning.

6.2.4 Opportunity to Learn and Students' Time on Task

This effective school correlate is generally about the time students actively engage in learning in the classroom (Aronson, Zimmerman, & Carlos, 1998; Fisher, 2009; Prater, 1992). The results of teachers' responses to the survey show that 74 per cent of teachers agree that their school promotes and protects the learning time of students. Teachers' responses on the effective school correlate; opportunity to learn and students' time on task are shown in Table 6.4.

Table 6.4: Participants' Responses on the Opportunity to Learn and Students' Time on Task in Percentages

| Effective School Correlate | Participants' Responses in Percentages | | | | |
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Opportunity to learn and students' time on task	1.43	6.41	17.29	47.85	27.02

The classroom is a complex environment that requires proper management, effective teaching and learning strategies and skills to engage students in learning (Djigic & Stojiljkovic, 2011). Therefore, it is important that the school environment should be free from any form of disruption that may affect classroom teaching and other learner-centred activities. Moreover, to actively engage students in learning, schools should have a policy of *differentiated activities* to support students of different learning abilities for their academic progress (Tomlinson, 2001). The findings revealed that only 66 per cent of the teachers said that their schools had successful strategies to help students at risk of failing.

There are several policies in the Maldives to promote learning and inclusivity of students, including students that require special needs (Ministry of Education, 2010f, 2013). However, teachers' responses to questionnaire items 43 and 45 indicated that policies designed to promote learning and inclusivity had not achieved their intended policy outcome. One example is the *inclusivity* quality standard of CFBS. This requires each school to have at least one trained member of staff (a teacher) per grade for children with special needs (Ministry of Education, 2010f). However, until 2017 the Ministry of Education was not able to provide training to meet this requirement. This suggests that there is a high possibility of lack of educational opportunities for the most disadvantaged students in some island communities.

6.2.5 Climate of High Expectation

In effective school studies, high expectation for students' achievement is claimed to have a positive effect on students' academic attainment (Rubie-Davies et al.,

2015; Hattie, 2009; Schilling & Schilling, 1999; Trusz & Babel, 2016; Peterson, Rubie-Davies, Osborne, & Sibley, 2016). The results of teachers' responses to the survey questionnaire indicated that 70 per cent of the teachers reported that this effective school correlate existed in their school. The results also indicated that this was the least affirmed effective school correlate by the teachers. Teachers' responses on the effective school correlate of a climate of high expectation is shown in Table 6.5.

Table 6.5: Participants' Response on Climate of High Expectation in Percentages

Effective School Correlate and Questionnaire Item	Participants' Responses in Percentages				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
Item 46: *Most students of your class are eager and enthusiastic about learning*	1.58	10.83	24.78	50.64	12.17
Item 47: *You believe that all students can achieve in your subjects*	0.87	10.77	22.67	50.15	15.54
Item 48: *Your students who are not achieving are given additional help*	0.33	3.74	12.76	54.44	28.74
Climate of high expectation	**0.93**	**8.44**	**20.07**	**51.74**	**18.82**

It was also found that more than 12 per cent of the teachers said that students were not motivated to learn (see the results of questionnaire item 46). Moreover, 11 per cent of teachers said that they did not believe that all students could achieve the basic curricular goals (questionnaire item 47). The fundamental idea behind the effective school movement is that, regardless of pupils' background and SES, all students can excel in school. Therefore, it was expected that this characteristic of

the effective school (i.e. high expectation for success) would achieve a more positive rating from teachers compared to other effective school correlates. However, it was found that nearly 30 per cent of the teachers said that their school had no climate of high expectation for student success.

The first national policy that addressed the importance of improving students' academic achievement was published in 2009 (Ministry of Education, 2009b). From the day that policy was issued, school principals and teachers were informed that they had to bring the necessary changes required to achieve the national goal of 60 per cent of passes in the secondary school completion examination. In addition to this, the action plan to achieve the 60 per cent target assigned specific tasks to teachers, principals and parents to make them responsible for their work at school and in the community (Ministry of Education, 2010a). Teachers' responses to the survey questionnaire items suggested that a considerable number of them were still not convinced by the intended policy outcome of improving the pass percentage. This may be one of the reasons why teachers rated this effective school correlate lower than other correlates considered in this study.

6.2.6 Positive Home–School Relationship

The aim of the home–school relationship in the effective school is to establish meaningful collaboration and collegial interaction between school staff and parents to achieve shared school goals. This includes the involvement of parents in formulating school goals and seeking their help and support in achieving those goals. The result obtained for this effective school correlate shows that 87 per cent of the teachers confirmed that there was a healthy relationship between school and

parents. Teachers' responses on the effective school correlate of a positive home–school relationship in percentages is shown in Table 6.6.

Table 6.6: Participants' Responses on Positive Home–School Relationship in Percentages

Effective School Correlate Questionnaire Item	Participants' Responses in Percentages				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Item 49: *You encourage parents to share their ideas with you*	0.55	2.50	14.26	53.38	29.31
Item 50: *You consider that parent organisations are important for school*	0.22	1.58	6.01	42.07	50.11
Item 51: *There is positive climate between you and parents*	0.67	2.01	9.10	52.51	35.71
Positive home–school relation	**0.48**	**2.03**	**9.79**	**49.32**	**38.38**

In the Maldives, there are only 20 islands with a population of more than 2,000 people. Moreover, out of these 20 islands, only four islands have a population above 5,000 (National Bureau of Statistics, 2015).

This indicates that most of the islands in the Maldives have a small population. The small island setting makes it impossible for schools not to engage parents in school matters. In addition to this, formal bodies that were formed by the Ministry of Education such as Parent Teacher Associations (PTAs) and school boards provide immense support and opportunities for parents to engage in school affairs (Ministry of Education, 1994b, 2004, 2011, 2012). Through PTAs and school boards, parents have the opportunity to evaluate the progress of the school and to report any harmful

practices that may take place in school to the Ministry of Education. Besides this, *family and community partnership* is one of the dimensions of CFBS (Ministry of Education, 2010g). This quality dimension not only advocates that parents should play an integral role in matters related to learning; in addition to this, it also provides opportunities for parents to work together with the staff for the development of the school community. Therefore, it is not surprising that teachers rated this effective correlate higher than all the other correlates presented in this study.

6.3 School Effectiveness in the Maldives: Beyond Individual Correlates

This part of the chapter presents the findings and discussions related to mean school effectiveness reported by teachers in the Maldives. In this endeavour, an investigation is carried out to examine whether there is any difference in teachers' perceptions based on their gender and qualifications. In addition to this, analysis is conducted to check whether community indicators such as island and zone education and employment have any relationship with the existence of effective school correlates.

6.3.1 Mean School Effectiveness in the Maldives as Reported by Teachers

Average school effectiveness shows that more than 80 per cent of the teachers affirm that their school can be considered as an effective school in terms of the existence of effective school characteristics. However, nearly 6 per cent of the teachers did not agree with this opinion. The percentage of teachers who could not make a judgement on their school effectiveness was about 14 per cent. The average percentages obtained from individual correlates are shown in Table 6.7.

Table 6.7: Average School Effectiveness in the Maldives in Percentages

Effective School Correlate	Participants' Responses in Percentages				
	Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
National school effectiveness	1.00	4.82	14.07	49.52	30.59

Teachers' responses to the survey items related to effective schools were computed to find the mean school effectiveness. This showed that the mean school effectiveness was 4.02. Comparison of effective school correlates with the national average revealed that the effective school correlates of the opportunity to learn and high expectations for success are below the national level, with means of 3.93 and 3.79, respectively. All the other effective school correlates have a higher mean than the national average. Comparison of effective school correlates at the national level is illustrated in Figure 6.1.
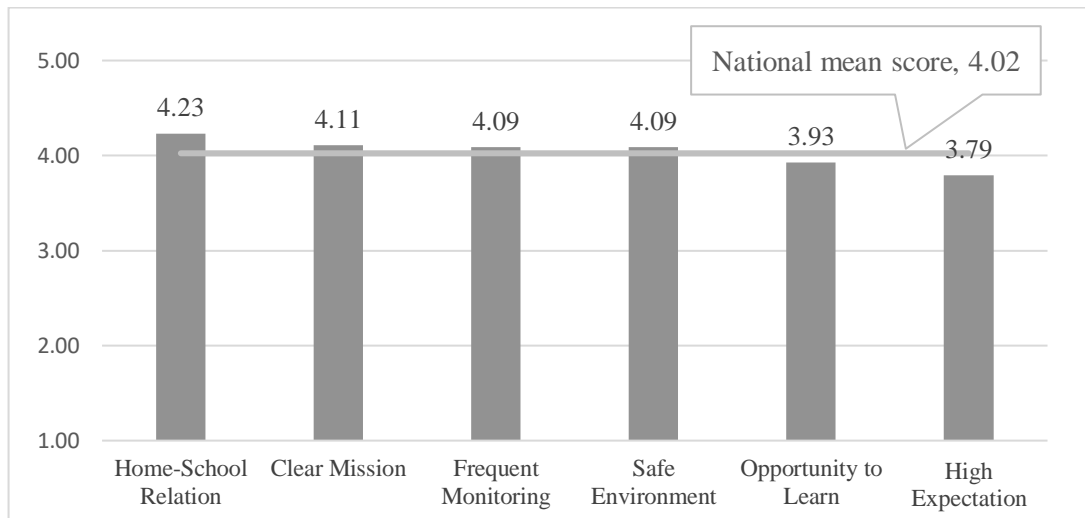
Figure 6.1: Mean score of school effectiveness at the national level

Further analysis was conducted to check whether participants' gender had any link to how they rated the questionnaire. The results show that participants' (teachers')

gender did not indicate any great difference in their response to most of the effective school correlates. See Table 6.8 for a comparison between female and male teachers.

Table 6.8: Participants' Responses on Effective School Correlates

Effective school	Male		Female		Cohen's
	Mean	SD	Mean	SD	d
School mission	4.14	0.62	4.08	0.64	0.09
Monitoring progress	4.12	0.63	4.07	0.65	0.07
Safety	4.15	0.68	4.04	0.71	0.16
Opp. for learning	3.96	0.66	3.90	0.68	0.10
Expect. of success	3.78	0.65	3.79	0.65	−0.02
Home–school relation	4.22	0.57	4.24	0.59	−0.03
Average	4.06	0.46	4.02	0.48	0.09

The above results indicate that there is a slight difference between teachers on how they perceived the safety of the school environment. Comparison of the means for this effective school correlate indicate that female teachers gave a lower rating for safety of the school than their male counterparts. Analysis of individual questionnaire items that belong to this effective school correlate indicated that female teachers are more concerned about the safety of students and physical condition of the school buildings than male teachers. (The effect size obtained for these two items are 0.13 and 0.17 respectively). This account may be taken into consideration to evaluate why female teachers feel less safe in a school environment than male teachers. Since female teachers are more concerned, they might experience more work-related stress. As a result, they could report that school is less safe for them compared with male teachers.

6.3.2 Contribution of School and Community Context Variables

From the literature, it was evident that school context variables such as teacher qualification and experience could be linked to school effectiveness (Kini & Podolsky, 2016; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2008). Correlation analysis was conducted to check whether school effectiveness in the Maldives had any relationship with teacher experience and qualification in the Maldives. The results of this analysis show that teachers' experience has a weakly positive relationship with effective school correlates. However, a correlation coefficient of 0.75 shows that there is a strong positive relationship between teacher qualification and the existence of effective school correlates. This shows that teachers with higher qualifications have given a higher rating for their school's effectiveness. As mentioned in Chapter 5, this higher rating from teachers with higher qualifications could be due to their higher representation in senior positions in schools. The results also show that there is a moderate to strong level of correlation between teacher qualification and the existence of effective school correlates (see Table 6.9).

Table 6.9: Pearson Correlation Coefficients between Effective School Correlates and Teacher Experience and Teacher Qualification

Teacher	School mission	Monitor progress	Safety	Opp. for learning	Expect. for success	Home– school relation	*Average*
Experience	.11	−.04	.11	−.02	.08	.19	**.12**
Qualification	.87	.76	.90	.48	.11	.16	**.75**

A bivariate correlation test was also computed to check whether there was any relationship between teachers' perceptions of the existence of effective school

correlates with community-related factors such as the educational level and employment level of the island. The results of the correlation test show that the percentage of the population with at least secondary education (in both the island and the school zone) has no substantial correlation with school effectiveness. However, the education level of the community and the employment rate of the island and zone income index have a weak to moderate relationship with teachers' reported school effectiveness ($r = 0.38$ and 0.42, respectively). In addition to this, it was found that home–school relationship and high expectation of success also have a moderate level of correlation with both island employment and zone income index. Table 6.10 presents the correlation coefficients obtained for the community indicators.

Table 6.10: Pearson Correlation Coefficients Obtained for School Community Variables

Context Variables	School Mission	Monitor Progress	Safety	Opp. for Learning	Expect. of Success	Parent Relation	*Average*
Island employment	0.14	0.24	0.28	0.21	0.52	0.45	**0.38**
Island population with secondary education	0.05	0.03	0.02	0.05	0.15	0.01	**0.07**
Zone income index	0.31	0.13	0.13	0.23	0.61	0.31	**0.42**
Zone population with secondary education	0.21	0.13	0.13	0.23	0.17	0.14	**0.16**

6.4 Summary

The findings presented in this chapter suggested that more than 80 per cent of the teachers perceived the existence of effective school correlates in their school. Teachers' responses to the questionnaire items also revealed the home–school relationship as the most visible effective school correlate in the Maldives. In addition to this, the findings suggested that teachers' gender did not play any difference in their perceptions of the existence of effective school correlates in the Maldives. However, teachers' qualifications and community variables do indicate a moderate to strong level of relationship with the reported mean school effectiveness in the Maldives.

Chapter 7: Relationship Between Principals' Instructional Leadership and the Existence of Effective School Characteristics

7.1 Introduction

The findings presented in the previous two chapters indicated that a large percentage of teachers perceived that their principal demonstrated instructional leadership. Also, it was revealed that most teachers reported that they observed effective school characteristics in their school. Therefore, this chapter will discover whether there is any relationship between teachers' reports on their principals' instructional leadership and the existence of effective school characteristics in school. For this purpose, bivariate correlation analysis and multiple linear regression between teachers' reports on instructional leadership job functions and school effectiveness will be conducted.

7.2 Relationship Between Principals' Instructional Leadership and Existence of Effective School Characteristics

The result of the correlation shows that there is a strong positive relationship between the principal's instructional leadership and the existence of effective school characteristics ($r = 0.72$). In addition to this, the result of the correlation analysis also indicated that principals' practice of the three instructional leadership dimensions identified by PIMRS is strongly related with the presence of effective school characteristics in the schools of the Maldives ($r > 0.6$). The results of the correlation are shown in Table 7.1.

Table 7.1: Results of the Correlation Test Between Instructional Leadership and Effective School Characteristics

Instructional Leadership as Identified by PIMRS	Correlation Coefficient (*r*)
Mean instructional leadership	0.72
Leadership Dimension 1: Defining the school mission	**0.70**
Job function 1: Frame school goals	0.74
Job function 2: Communicate school goals	0.58
Leadership Dimension 2: Managing instructional programme	**0.63**
Job function 3: Coordinate curriculum	0.55
Job function 4: Supervise and evaluate instruction	0.62
Job function 5: Monitor students' progress	0.58
Leadership Dimension 3: Promoting learning climate	**0.70**
Job function 6: Protect instructional time	0.56
Job function 7: Maintain high visibility	0.55
Job function 8: Provide incentives for teachers	0.58
Job function 9: Promote professional development	0.75
Job function 10: Provide incentives for learning	0.69

Further analysis of the correlation test indicated that there were four instructional leadership job functions that have a strong relationship with school effectiveness (*r* > 0.60). They are: frame the school goals, supervise and evaluate instruction, promote professional development, and provide incentives for learning. All the remaining six instructional leadership job functions have a moderate level of

correlation with school effectiveness ($0.55 \leq r \leq 0.58$). In addition to this, correlation analysis was also carried out to check how teachers' perceptions of their principals' practice of instructional leadership as identified by PIMRS were related to the existence of effective school characteristics. The result of this analysis is presented in Table 7.2.

Table 7.2: Relationship Between Instructional Leadership and Effective School Characteristics

Instructional Leadership	Clear focused mission	Freq. Monit-oring	Safe and orderly env.	Opp. to learn	High Exp.	Home–School Relation
Mean instructional leadership	.62	.63	.57	.58	.60	.44
D1: Defining school mission	**.69**	**.64**	**.59**	**.51**	**.59**	**.36**
JF1: Frame school goals	.68	.63	.47	.61	.51	.43
JF2: Communicate school goals	.61	.47	.47	.35	.59	.24
D2: Managing instructional prog.	**.53**	**.55**	**.47**	**.50**	**.61**	**.40**
JF3: Coordinate curriculum	.52	.39	.49	.38	.62	.30
JF4: Supervise and evaluate instruction	.48	.49	.45	.52	.54	.43
JF5: Monitor student progress	.47	.45	.57	.49	.52	.39
D3: Promoting learning climate	**.54**	**.62**	**.57**	**.64**	**.52**	**.50**
JF6: Protect instructional time	.44	.46	.45	.52	.51	.33
JF7: Maintain high visibility	.33	.49	.41	.59	.43	.42
JF8: Provide incentives for teachers	.46	.49	.45	.49	.51	.40
JF9: Promote PD	.58	.68	.63	.70	.46	.57
JF10: Provide incentives for learning	.60	.62	.62	.57	.42	.49

The result of the correlation test presented in the above table shows that the instructional leadership dimensions identified in PIMRS demonstrate a similar pattern in their relationship with effective school correlates. All the instructional leadership dimensions have a moderate- to strong-level relationship with individual effective school characteristics. However, instructional leadership dimension 1 *(defining school mission)* shows a strong positive relationship with the effective school characteristic of a clear and focused mission ($r = 0.69$). This suggests that principals who are better in defining school goals are also better in engaging the school community to achieve its curricular goals. This instructional leadership dimension focuses on the principal's role to formulate school goals and their responsibility to communicate these goals to the school community (Hallinger, 2005; Huber, 2004; Brandon, Hollweck, Donlevy, & Whalen, 2018). It is claimed that instructional leaders are more goal-oriented (Hallinger, 2005). Therefore, it is anticipated that a school in which the principal demonstrates this leadership dimension would have a clear and focused mission through which staff work together for students' success.

The second instructional leadership dimension *(managing instructional programme)* has a greater association with high expectations for students' success at school ($r = 0.61$). This suggests that there is an atmosphere of high expectation in schools where principals are better at coordinating the curriculum, monitoring students' progress and protecting instructional time. Among the three job functions in this leadership dimension, coordinating the curriculum has the most significant relationship with high expectations for students' success ($r = 0.62$). A similar finding also suggests that a good instructional leader would provide meaningful

assistance for teachers in managing and coordinating the curriculum and improving the quality of teaching and learning in school (Day et al., 2016). This, in turn, influences the motivations, expectations, attitudes and conduct of students in classrooms and promotes student outcomes (Sammons, 2007).

Leadership dimension 3 *(developing school learning climate)* is more visible in schools where there is a greater opportunity to learn and a greater amount of students' time on task ($r = 0.64$). This may be an indication that principals could play a vital role in developing a positive school culture for the promotion of equity and equal opportunities for all its students. The result of the correlation analysis also indicated that the principal's role in promoting teachers' professional development is the most significant leadership job function in this dimension. This is because schools where principals promote teachers' professional development demonstrate a strong relationship with frequent monitoring of students' progress and an orderly environment for learning and also provide better opportunities for learning. It is suggested that effective instructional leaders provide staff development opportunities based on the needs of teachers (Blase & Blase, 2000). This type of tailored professional development is essential for teachers to acquire the knowledge and skills necessary to create a supportive learning environment (Noble & McGrath, 2016). As a result, it may be envisaged that a school where teachers are properly trained will have a safe and orderly environment that provides equal opportunities for learning.

From the above findings, it may be assumed that teachers perceived that there was a significant relationship between their principal's instructional leadership and the existence of effective school characteristics. However, the above findings do not

demonstrate that the existence of effective school characteristics are due to principals' practice of instructional leadership as identified by PIMRS. Therefore, multiple linear regression is used to check whether principals' instructional leadership could be used to predict school effectiveness in the Maldives. If so, what is the most influential instructional leadership job function that could explain the most variance in the existence of effective school characteristics?

7.3 Multiple Linear Regression

The purpose of conducting multiple linear regression was to check whether teachers' reports on their principal's instructional leadership can be used to identify effective school characteristics in secondary schools in the Maldives. For this purpose, analysis was carried out to explore the contributions of each of the instructional leadership dimensions of PIMRS for the existence of effective school correlates. Before conducting the analysis, data were checked to test some of the basic assumptions that are required in multiple linear regression. Thus, the assumption of normality of residuals, linearity, multicollinearity and homoscedasticity of data were tested before conducting regression analysis.

7.3.1 Assumption 1: Normality of Residuals (Errors)

One of the critical assumptions of linear regression is that variables have normal distributions (Osborne & Waters, 2002). However, Williams, Gómez Grajales, and Kurkiewicz (2013) stated that the assumption of normality in linear regression is about the normality of the regression residuals (errors). The purpose of testing this assumption is to check whether regression residuals are normally distributed for

any combination of values on the predictor variables (Williams et al., 2013). Figure 7.1 shows the histogram obtained from the regression analysis. From visual inspection, it can be presumed that the regression residuals (errors) are approximately normally distributed in the regression model.

Histogram
Dependent Variable: Mean School Effectivness
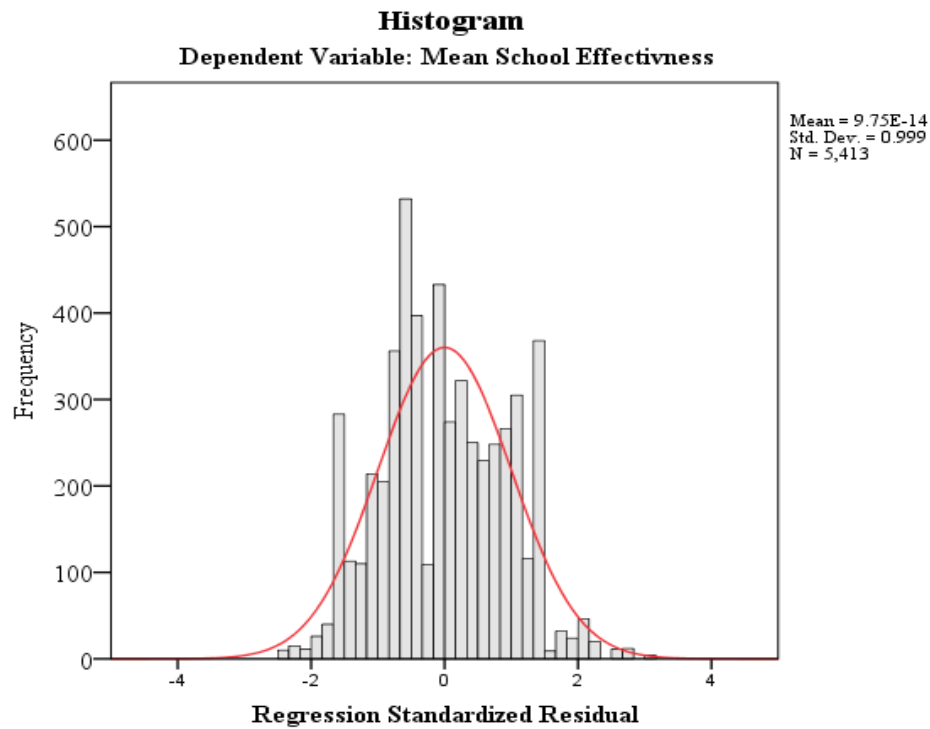
Figure 7.1: Histogram indicating the normality of regression residuals

7.3.2 Assumption 2: Linearity

In multiple linear regression, it is assumed that the model has a linear pattern (Chatterjee & Hadi, 2012). This means that the response variable from the regression model is assumed to be a linear function of the regression parameters. (Williams et al., 2013). This indicates that the regression residuals should have a straight-line relationship with the predicted responses. To test this assumption, P-P plots obtained from regression analysis were used. From the straight-line pattern of

the P-P plots, it can be assumed that there is a fairly approximate linear relationship between the dependent variable and regression coefficients.
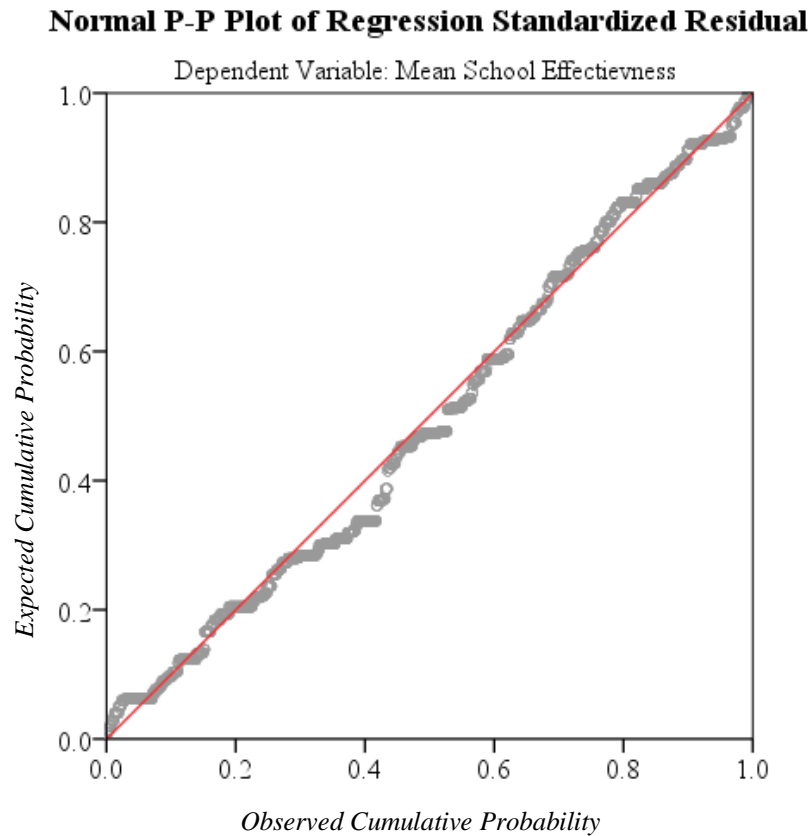
Figure 7.2: P-P plot obtained from linear regression analysis

7.3.3 Assumption 3: Multicollinearity and Singularity

Multicollinearity describes the situation where two or more predictor variables in a statistical model are highly correlated (Alin, 2010). Singularity exists when there is a perfect correlation between explanatory variables (Dattalo, 2013). To test these assumptions, bivariate correlation analysis was conducted between the predictor variables (instructional leadership job functions) used in this study. From the result of the correlation test, it was found that variables are not highly correlated with each

other. In addition to this, it was also found that there is no perfect correlation (i.e. r = 1) between variables. The result of the correlation analysis is presented in Table 7.3.

Table 7.3: Results of the Correlation Test to Check Multicollinearity and Singularity

	SE	IL1	IL2	IL3	IL4	IL5	IL6	IL7	IL8	IL9	IL10
SE	1										
IL1	.74	1									
IL2	.58	.64	1								
IL3	.55	.63	.64	1							
IL4	.62	.59	.60	.62	1						
IL5	.58	.59	.61	.66	.62	1					
IL6	.56	.43	.45	.47	.47	.44	1				
IL7	.55	.51	.54	.56	.55	.64	.50	1			
IL8	.58	.53	.54	.57	.57	.60	.48	.63	1		
IL9	.75	.56	.52	.55	.58	.57	.45	.59	.65	1	
IL10	.69	.53	.50	.48	.51	.50	.43	.53	.62	.62	1

In addition to the bivariate correlation analysis, the regression model was also examined to check whether there was any multicollinearity among the variables in the regression model. For this purpose, the variance inflation factor (VIF) coefficient from the regression analysis is used. Generally, a tolerance of less than 0.20 and a VIF of 5 or above indicates a multicollinearity problem (O'Brien, 2007).

From the analysis, it was found that the value of tolerance was above 0.2 and the VIF was less than 5. The VIF coefficients and corresponding tolerance values are shown in Table 7.4.

Table 7.4: Tolerance and VIF Coefficients Obtained from the Linear Regression

Instructional leadership as identified by PIMRS	Tolerance	VIF
Job function 1: Frame school goals	0.23	4.37
Job function 2: Communicate school goals	0.27	3.75
Job function 3: Coordinate curriculum	0.23	4.39
Job function 4: Supervise and evaluate instruction	0.21	4.84
Job function 5: Monitor student progress	0.26	3.85
Job function 6: Protect instructional time	0.32	3.09
Job function 7: Maintain high visibility	0.21	4.89
Job function 8: Provide incentives for teachers	0.21	4.17
Job function 9: Promote professional development	0.20	4.91
Job function 10: Provide incentives for learning	0.28	3.55

From the above results, it can be concluded that the regression model is free from both multicollinearity and singularity.

7.3.4 Assumption 4: Homoscedasticity

The assumption of homoscedasticity refers to a constant variance of residuals in regression. The purpose of this assumption is to ensure that the variance of errors are approximately similar at each point of the regression model (Vogt & Johnson,

2015). Violation of this assumption makes the data heteroscedastic and leads to distortion of findings. To test this assumption, visual examination of the standardised residual by the regression standard predicted value plot shown in Figure 7.3 is used.
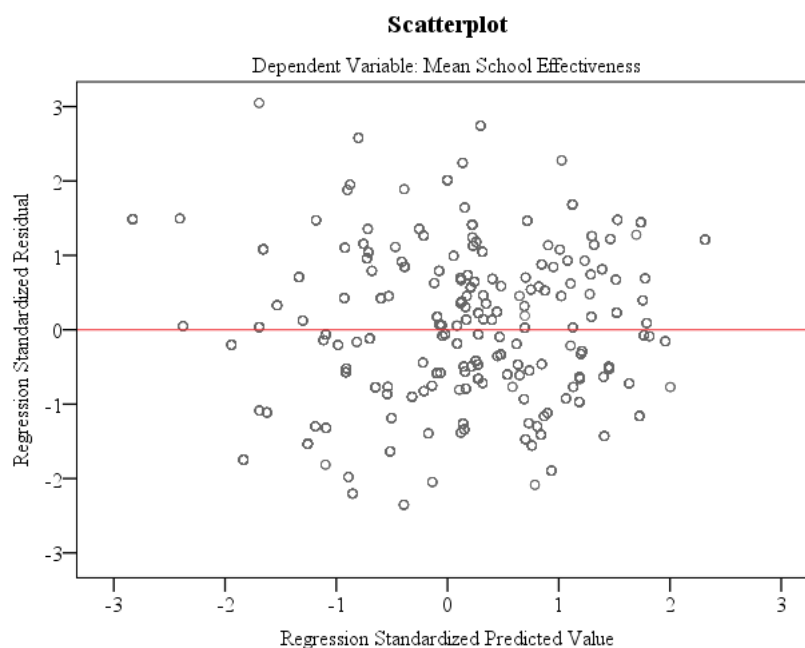
Figure 7.3: Scatterplot

The results of the above assumptions indicated that the data is fit to carry out the multiple linear regression.

7.3.5 Linear Regression: Predicting School Effectiveness from Instructional Leadership

After examination of the above-mentioned assumptions, multiple linear regression was carried out to predict the existence of effective school correlates in the secondary schools of the Maldives. The predictor variables used were the ten

instructional leadership job functions identified in PIMRS. The dependent variable was the mean of teachers' reports on effective school characteristics.

The model summary presented in Table 7.5 shows that there is a strong relationship between principals' instructional leadership and reported school effectiveness by teachers ($r = 0.83$). Moreover, the adjusted R square value of 0.68 indicates that principals' practice of the ten instructional leadership job functions identified in PIMRS may explain 68 per cent variance in the existence of the effective school characteristics in secondary schools in the Maldives.

Table 7.5: Multiple Linear Regression Model Summary

Input variables	R	R^2	Adjusted R^2
10 Instructional Leadership job functions of PIMRS	.83	.68	.68

Dependent variable: Mean school effectiveness reported by teachers

Regression coefficients obtained by using teachers' reports on the survey questionnaire indicates that all the instructional leadership job functions have a positive contribution to the presence of effective school characteristics. However, teachers reported that promoting the professional development of teachers was the key contributing variable for the model (0.62). This suggests that principals' role in promoting professional development can explain 62 per cent variance in predicting the presence of effective school characteristics. Table 7.6 shows the correlation coefficients obtained from the regression analysis.

Table 7.6: Regression Coefficients

Instructional leadership as identified by PIMRS	Standardised β coefficient
Job function 1: Frame school goals	0.29
Job function 2: Communicate school goals	0.19
Job function 3: Coordinate curriculum	0.20
Job function 4: Supervise and evaluate instruction	0.12
Job function 5: Monitor student progress	0.08
Job function 6: Protect instructional time	0.15
Job function 7: Maintain high visibility	0.27
Job function 8: Provide incentives for teachers	0.24
Job function 9: Promote professional development	**0.62**
Job function 10: Provide incentives for learners	0.25

* Constant = 1.95

7.4 Summary

The findings presented in this chapter are based on teachers' reports on the survey questionnaire. The findings indicated that principals' instructional leadership had a strong relationship with the existence of effective school correlates in the secondary schools of the Maldives. In addition to this, the results of the correlation analysis and multiple linear regression also suggested that the largest contributory factor in predicting the existence of effective school correlates is principals' role in promoting the professional development of teachers. Therefore, in the next chapter, attempts will be made to explore whether principals' instructional leadership promotes school effectiveness by making a positive difference in pupils' attainment in the Maldives.

Chapter 8: Does Instructional Leadership Make Schools More Effective? Evidence from the Maldives

8.1 Introduction

The purpose of this chapter is to investigate the contribution of principals' instructional leadership to school effectiveness in the Maldives. Pupils' attainment in the secondary school completion examination is used as an indicator of school effectiveness. The teachers' reports on their principals' instructional leadership, the existence of effective school characteristics, pupils' background information and community-level indicators are used to create a model that can explain the differential effect of principals' instructional leadership in the Maldives.

From the results of the first three research questions, it is evident that 67 per cent of the teachers expressed the view that principals demonstrated instructional leadership in secondary schools in the Maldives. In addition to this, it was also found that over 80 per cent of the teachers also affirmed that they observed effective school characteristics in their school. Moreover, the results of the correlation analysis and multiple linear regression indicate that principals' instructional leadership has a strong association with the existence of effective school characteristics in secondary schools in the Maldives (both the correlation and multiple linear regression have a coefficient greater than 0.6).

Further correlation analysis was conducted to check whether there was any relationship between principals' instructional leadership and pupils' attainment in the secondary school completion examination. The results of this test suggest a reasonably strong link between teachers' reports on their principals' instructional

leadership and students' attainment (r = 0.62). Moreover, it was also found that there was a strong relationship between the existence of effective school characteristics and students' attainment in the secondary school completion examination (Pearson correlation coefficient = 0.73). The above-mentioned results are illustrated in Figure 8.1.
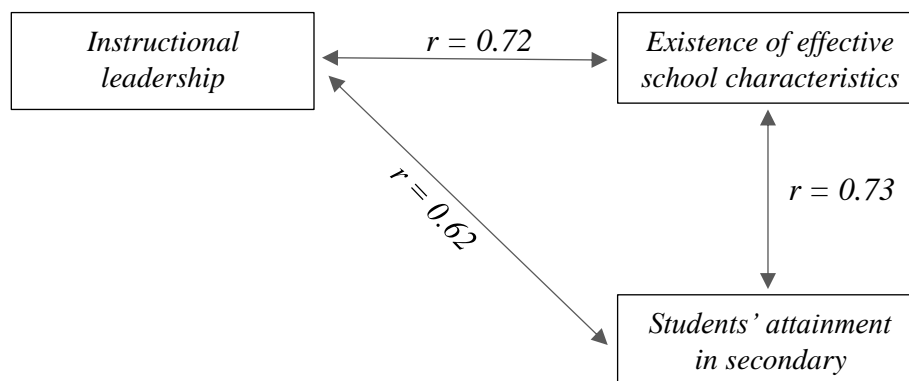
Figure 8.1: Relationship between instructional leadership, existence of effective school characteristics and students' attainment

Findings similar to the above are often used to claim that principals' instructional leadership has both a direct and an indirect effect on pupils' educational attainment. However, there is a strong indication that factors related to students such as prior attainment, age and gender are associated with their attainment. Moreover, there is a substantial amount of evidence to indicate that factors related to the school community also influence students' academic progress in school (Coleman et al., 1966; Jencks et al., 1972; Plowden, 1967; Hirsch, 2007; Schneider & Coleman, 2018). Hence, without such factors, it would be misleading to use the above findings to suggest that principals' instructional leadership has a strong positive impact on school effectiveness, which, in turn, has a positive effect on students' attainment.

Therefore, binary logistic regression modelling is used to explore the effect of principals' instructional leadership in the presence of various factors that may have an effect on students' attainment.

8.2 Binary Logistic Regression

To analyse data for Research Question 4, three different binary logistic regression models were created. To carry this out, students' academic achievements in the secondary school completion examination were used to create a categorical variable based on the national goal of obtaining five passes in that examination. The three models used to explore the possible effect of these variables, including principals' instructional leadership, are presented below.

The first regression model takes the full population of students, including the dropouts, as a dependent variable. The baseline model with no independent variables suggested that the model is 61.5 per cent correct in predicting students' attainment. The addition of five sets of independent variables (community factors, teachers' factors, school factors, students' factors and principals' instructional leadership) suggested that there was a significant improvement to the model. Through the addition of the independent variables, the predictive ability of the model increased to 90.5 per cent, and the Nagelkerke R square value for this model is 0.82.

The second model was created by using the population of students as the dependent variable but excluding the dropouts. The results indicated that the baseline variables' prediction of the students' academic achievement in the secondary school completion examination was 50.4 per cent. The logistic regression analysis showed

that the addition of independent variables improved the model to 87 per cent, with a Nagelkerke R square value of 0.76. This indicates that the independent variables used in the regression model had over 37 per cent variance in explaining students' achievement in the secondary school completion examination.

The third model also used students' achievement as the dependent variable. However, for this model, the dropout students were included after assigning the average school achievement mark to them. The results suggest that this model can predict students' attainment with 77 per cent accuracy. In addition to this, it was also found that there was a 25 per cent improvement over the baseline model with a Nagelkerke R square value of 0.48. This indicates that there is a moderate improvement in fit over the baseline model. See Table 8.1 for the model summary with the addition of each set of independent variables.

Table 8.1: Binary Logistic Regression Model Summary

Block No.	Input Variable	Model 1 (N = 5413)		Model 2 (N = 4202)		Model 3 (N = 5413)	
		Percent Correct	*R Square*	*Percent Correct*	*R Square*	*Percent Correct*	*R Square*
0	–	61.5	–	50.4	–	51.6	–
1	Community factors	62.0	0.1	58.4	0.06	61.4	0.10
2	Teacher factors	62.2	0.11	60.2	0.07	61.9	0.11
3	School factors	62.7	0.11	60.8	0.07	62.2	0.11
4	Student factors	90.3	0.82	87.7	0.76	77.1	0.48
5	Principals' leadership	90.4	0.82	87.7	0.76	77.1	0.48

From the above logistic regression models, it is evident that Model 1 has the highest percentage in predicting students' attainment. In addition to this, it was found that Model 1 has the highest R square value ($R^2 = 0.82$). Also, it was found that Model 2 had the highest improvement over the baseline. It is important to note that Model 1 includes all the dropout students from the schools. Moreover, inclusion of these students prevents the possibility of giving schools an unfair advantage over those schools where students were not dropped from the examination due to their lower achievement. Model 3, which used the full population of students by assigning the school's average mark to the dropouts, may also give a biased positive achievement for many schools where students were dropped due to their lower achievement. Based on these assumptions, Model 1 will be used to discuss the contribution of instructional leadership in the presence of community factors, teacher factors, school factors and student factors.

8.3 What Are the Factors Contributing Most to Pupils' Attainment?

The fundamental purpose of the effective school movement and the underlying idea of instructional leadership is to promote educational attainment of students in schools. These two interconnected areas of research often suggest that schools can make a difference, regardless of factors that are related to the social well-being of the students in the community. However, the findings of this study revealed that the most vital factors for academic attainment are directly related to students' contextual factors and also to factors related to the school community.

The regression coefficients obtained from Model 1 suggests that there are two influential variables that may have played a particular role on students' academic

attainment in the secondary school completion examination. These two individual variables are school zone income (in community factors) and prior attainment of students in English Language at primary level (in student factors). The regression coefficients obtained from Model 1 are shown in Table 8.2.

Table 8.2: Regression Coefficients Obtained from Model 1

Input Block	Variables in Block	Exp (B)
1 Community Factors	Island: Employment rate	1.00
	Island: Population with secondary education	0.99
	Zone: Income index	4.10
	Zone: Population with secondary education	1.04
2 Teacher Factors	Experience (number of years worked)	1.10
	Percentage of trained teachers in schools	1.01
	Qualification: Percentage of undergraduates	1.01
	Qualification: Percentage of postgraduates	1.01
3 School Characteristics	Existence of effective school characteristics	1.09
4 Student Factors	Prior attainment at primary – English	2.09
	Prior attainment at primary – Mathematics	1.05
	Age in months	1.01
	Gender (female)	1.25
5 Instructional leadership	Mean of principals' instructional leadership	1.08

Below are some of the likely reasons why student factors and the economic well-being of the school zone are important in the Maldives.

8.3.1 Student Factors

Student factors that are included in this study are attainment at primary level in Mathematics and English Language. In addition to this, students' gender and age in months are also used as demographic variables. These variables contribute to a 95 per cent variance in student attainment in the secondary school completion examination in the Maldives. The contribution of each set of variables is illustrated in Figure 8.2.
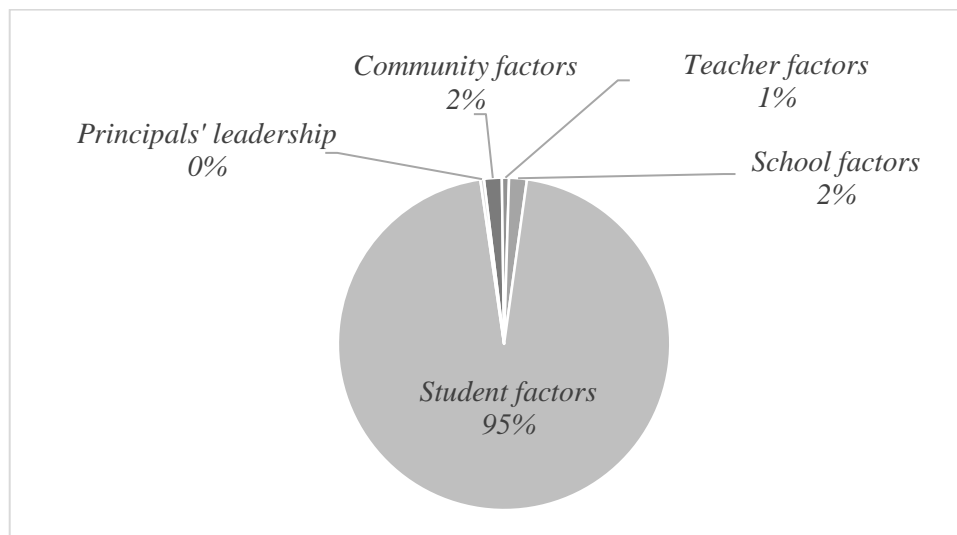
Figure 8.2: Contribution of each set of variables in students' attainment

Among these variables, primary attainment in English Language is known to have a most significant contribution to students' academic attainment at secondary level (Exp (B) = 2.09). This suggests that every percentage point increase in primary English Language attainment translates into a probability of over 69 per cent of a student meeting the national requirement of passing five or more subjects in the secondary school completion examination. The likely question that may arise from this result could be: why does the English Language attainment have such a significant impact on students' attainment at secondary level in the Maldives? As

mentioned in Chapter 1, the mother tongue of Maldivians is the native Dhivehi language. However, due to the adoption of international curriculums, the English language is used as the medium of instruction in schools. Therefore, there is a valid reason to claim that students' ability to interact in the English language is vital for effective teaching and learning. Further analysis conducted shows that the number of students passing in English Language at IGCSE has a strong relationship with the number of students meeting the national requirement of five subject passes ($r = 0.74$).

There is a considerable amount of evidence to support the idea that language development is essential for learning (Couchenour & Chrisman, 2013; Lidz, 2002; Navas, Ciboto, & Borges, 2017; Berk, 2013; Brock & Rankin, 2008). Moreover, language development is known to have a strong influence on the cognitive development of students (Berk, 2013; Brown & Lenneberg, 1954; Vygotskiĭ, 2012). In addition to this, students' ability to use language promotes self-esteem and confidence, which can have a positive effect on learning (Irvin, Meltzer, & Dukes, 2007; Ross, Perkins, & Bodey, 2016). The general practice in the Maldives is that use of the English language is often limited to classroom activities, and there is no use of the English language in social interaction and in the community. This may have contributed to the lack of language development of students, ultimately affecting their ability to understand what is being taught in schools.

The findings also revealed that girls are 38 per cent more likely to gain passes in five or more subjects in the secondary school completion examination than boys. The literature suggests that girls outperform boys in secondary school education (Crosnoe, Riegle-Crumb, Field, Frank, & Muller, 2008). This is also true in the

Maldivian education system. As Gorard, Rees, and Salisbury (2001) have suggested, further research is required to discover the potential socioeconomic, classroom and individual factors that may contribute to this gender gap in the Maldives. However, the data used in this study suggests that over 58 per cent of the dropout students in the years 2014 and 2015 are boys. It is likely that this dropout rate is due to intervention from the school in order to increase the pass percentage of the school in the secondary school completion examination. Therefore, in such a situation, it is possible that girls may outperform boys in achieving the national goal of passes in five subjects.

8.3.2 Economic Well-being of the School Zone

Among the most influential factors affecting students' attainment is the school zone. Regression coefficients from Model 1 indicate that students who study in schools where there is higher income have a probability of over 80 per cent of attaining passes in five subjects or more in the secondary school completion examination (Exp (B) = 4.10). The most economically advantaged areas of the Maldives are the capital city, Malé, and islands where there is local tourism and those near the local airports. Often, these islands have larger populations compared with the neighbouring islands. The larger populations provide better economic opportunities than islands with fewer people. In addition to this, these islands receive more attention from the government for political advantage. The combination of these factors plays an important role in schools on such islands, because they receive resources that are generally unavailable to schools in smaller island communities.

The results indicate that there is a strong relationship between the income of the school zone and the percentage of the population that are educated above secondary level ($r = 0.76$). There is overwhelming support for the claim that SES is one of the most powerful indicators in predicting students' attainment (Battle & Pastrana, 2007; Gorard & See, 2009; Berger & Archer, 2016; Siddiqui, 2017). In addition to this, it is also known that students' attainment in literacy and numeracy is negatively related to the economic deprivation of the school community (Gorard & See, 2009). Moreover, parental support and involvement are positively linked to students' attainment in schools (Fan & Chen, 2001; See & Gorard, 2015). Based on the above facts, it can be argued that students studying in schools in low-income zones are less likely to obtain the political, economic and social advantages that are crucial for school success. As a result, students' literacy and numeracy at primary level in the low-income zones are much lower than those studying in more economically prosperous islands. This may be one of the reasons why zone income is the most significant variable that has been identified in the logistic regression.

8.3.3 Principals' Leadership Does Not Make a Difference, So How Did the Maldives Succeed in Achieving the 60 Percent of Passes?

The findings of this study indicated that principals' instructional leadership does not contribute directly to students' academic attainment in a differential way. This indicates that principals' ability to demonstrate instructional leadership has no significant impact on achieving the intended goal of the 60 per cent pass policy. However, in 2017, the Ministry of Education announced the achievement of the national goal of 60 per cent of passes in the secondary school completion

examination. The minister reiterated this as a success of the Progressive Party of the Maldives (PPM) government in the 39th General Conference of UNESCO (UNESCO, 2017).

When the policy was implemented in 2008, the percentage of students passing was nearly 30 per cent. When I received the secondary data on students' attainment in 2015, the percentage of students passing was reported as 46.2 per cent. However, in 2016 and 2017, the result of students who had achieved passes in five or more subjects was reported as 70 and 77 per cent, respectively. Figure 8.3 illustrates the pass percentages of students from 2008 to 2016.
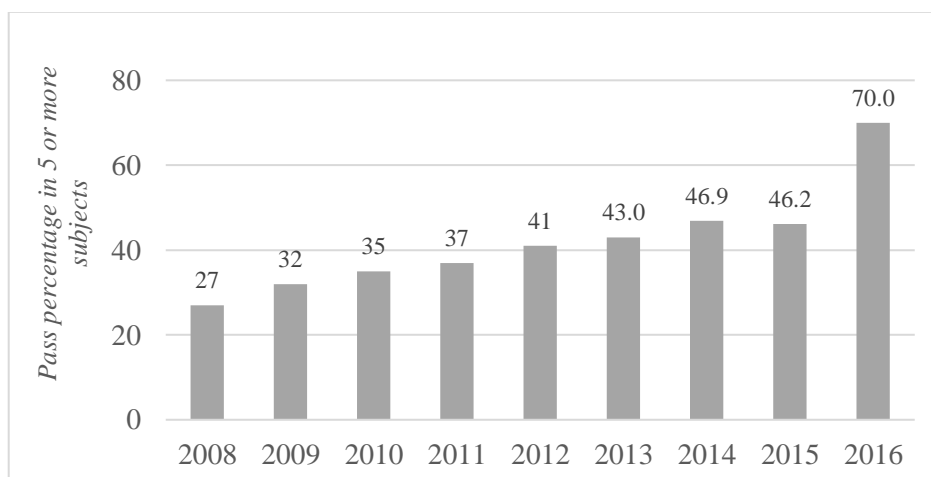
Figure 8.3: Pass percentages of students in five or more subjects
(National Bureau of Statistics, 2017)

The nature of this study and its findings compelled me to explore the possible reasons for this sudden rise in students' attainment during the last two years, especially given that the island community indicators and school context variables do not demonstrate any significant variation over the last two years. For this purpose, attempts were made to identify the net enrolment of students in the final year of secondary education (grade 10) and the numbers of students enrolled in the

examination. Analysis of the data revealed that nearly 92 per cent of the pupils sat the examination before the implementation of the 60 per cent pass policy, and all these students sat more than five subjects in the secondary school completion examination. However, in the year 2016, only 3,552 (58 per cent) students were allowed to sit more than five subjects in the examination. In addition to this, from 2016 onwards, without any formal policy, instead of using the full enrolment of students, the Ministry of Education started using the number of students who sat more than five subjects to calculate the pass percentage of students at the national level. Calculation using this approach results in the pass percentage of students in five or more subjects in the secondary school completion examination as 70 per cent in 2016. The calculation based on this approach is shown below.

$$Pass\ percentage\ = \frac{number\ of\ students\ passed\ in\ 5\ subjects}{number\ of\ students\ sitting\ 5\ subjects} = \frac{2507}{3552} = 70.6$$

However, in all the previous years, the full population of students was used as the denominator to calculate the pass percentage in the secondary school completion examination. Table 8.3 shows the actual pass percentages of students in five or more subjects by taking the full population of students sitting the secondary school completion examination in 2008 (before implementation of the policy) and in 2016.

Table 8.3: Actual Pass Percentages of Students in 2008 and 2016

	2008	**2016**
Grade 10 enrolment	8,478	5,743
Number of students who sat the examination	7,781	5,497
Number of students sitting five or more subjects	**7,781**	**3,552**
Number of students passed in five or more subjects	2,233	2,507
Percentage passed in five or more subjects (exam enrolment)	28.69	45.61

Data taken from: *School Statistics 2008* and *2016* (Ministry of Education, 2008c, 2016e)

It must be acknowledged that, under the "no child left behind" policy, the Ministry of Education has introduced several TVET programmes such as *Dhasvaaru*, school TVET and polytechnic courses into the education system (Ministry of Education, 2016f). Students who could not obtain the required number of passes in the secondary school completion examination were instructed to enrol in one of the TVET programmes. The quality of these courses is often questioned by the teachers and educators. However, even with this change, the Ministry of Education was not able to achieve the goal of the 60 per cent pass policy. Moreover, there is a concern that these programmes are used as a political tool to show that the government have succeeded in achieving the national educational goals.

8.4 Summary

The findings presented in this chapter indicated that principals' differential leadership is not a crucial factor for school success. Instead, factors related to the students and the school community are far more influential than school factors in students' academic attainment. Out of various context variables, students' primary attainment in English Language, students' gender and the income level of the school zone demonstrate a strong link with individual students' attainment. These findings also indicate that the recent statistics from the Ministry of Education do not provide an accurate picture of educational effectiveness in the Maldives. Based on these findings, the next chapter will suggest possible implications that can be used for the improvement of the educational system in the Maldives.

Chapter 9: Conclusions and Implications of the Findings

9.1 Introduction

This is the final chapter of the thesis. This chapter presents a summary of the key findings related to each of the research questions followed by some of the limitations of the study. In addition to this, the chapter will highlight the implications of the research findings for educational policy and practice and also for future research in this field.

9.2 Summary of the Findings

The study was conducted to check the contribution of principals' instructional leadership in promoting school effectiveness by raising students' attainment in the secondary school completion examination in the Maldives. To explore the contribution of principals' leadership, four separate research questions were developed. They are:

- What is the level of principals' instructional leadership practices in the schools in the Maldives as identified by PIMRS?

- What is the level of existence of effective school correlates in the schools of the Maldives?

- What is the relationship between principals' instructional leadership and the existence of effective school correlates in secondary schools in the Maldives?

- To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?

By using these research questions, analysis was carried out to discover the principals' practice of instructional leadership and the existence of effective characteristics in schools. These findings are linked with individual students' and community data to check whether school leadership does make any meaningful difference to pupils' attainment in the Maldives. It is anticipated that the findings of this study provide vital information that can be used to promote pupils' attainment in the Maldives. The summary of the findings of the four research questions of this study is given below.

9.2.1 Research Question 1

What is the level of principals' instructional leadership practices in the schools in the Maldives as identified by PIMRS?

The findings of this study suggested that a large percentage of teachers reported that their principal demonstrated instructional leadership in their school. This conclusion is mainly based on teachers' reports on the ten instructional leadership job functions identified by PIMRS. Since its emergence, instructional leadership has been of great interest in educational research. A large number of studies have been conducted to establish the positive effects of instructional leadership. One of the key findings from various empirical research studies linked to instructional leadership indicated that there is a connection between principals' leadership and teachers' professional development (Leithwood, Patten, & Jantzi, 2010; Li, Hallinger, & Walker, 2016; Liu, Hallinger, & Feng, 2016). Similarly, the findings from the teachers' reports suggested that principals who demonstrate a high degree

of instructional leadership also provide better professional development opportunities for teachers.

Contrary to the findings of Eagly et al. (1992), Reynolds et al. (2008), Cristina and Anthony (2005) and Eagly and Carli (2003) presented in Chapter 3 on the role of gender in leadership, teachers' reports on their principals' leadership indicated that male principals were better in performing some of the instructional leadership job functions in the Maldives. The most visible job functions where the role of gender plays a part are reported as framing the school goals and providing incentives for teachers.

Studies that explored the effect of principals' experience often reported vague findings and do not provide any strong link to leadership. However, this study revealed that there is a positive correlation between principals' experience in the educational field and the ability to demonstrate instructional leadership. The findings suggested that principals' experience is moderately associated with the leadership job functions of framing the school goals, providing incentives for learning and maintaining high visibility in the school.

9.2.2 Research Question 2

What is the level of existence of effective school correlates in the schools of the Maldives?

The purpose of this research question is to check whether secondary schools in the Maldives have effective school characteristics. The most fundamental notion of the effective school movement is that school can make a difference in students' attainment. The literature on effective school studies claims that certain

characteristics in school can promote students' academic attainment. In this endeavour, researchers have identified several effective characteristics. However, for this research, I have used effective school correlates identified by Lezotte (1991). These effective school correlates are:

- Clear and focused mission

- Frequent monitoring of students' progress

- Safe and orderly environment

- Opportunity to learn and student time on task

- High expectation of student success

- Positive home–school relationship

The findings obtained for these correlates based on the teachers' reports suggested that most of the teachers perceived that these effective school characteristics existed in their school. The effective school correlate most highly affirmed by the teachers was a positive home–school relationship. The analysis conducted by using the mean of the teachers' responses indicated that a high percentage of teachers do not consider that their schools provide equal opportunities for all the students to learn and a climate of high expectation. These findings contradict the fundamental idea of the effective school movement.

In addition to the above findings, it was also revealed that there is no difference between teachers' perceptions based on their gender and experience on how they have responded to effective school questionnaire items. However, the results indicated that teachers with higher qualifications viewed their school as more effective in terms of the existence of effective school characteristics ($r = 0.75$).

Moreover, the findings also suggested that in communities where there is high employment and income, there is a positive relationship with the existence of effective school characteristics in school.

9.2.3 Research Question 3

What is the relationship between the principal's instructional leadership and the existence of effective school correlates in secondary schools in the Maldives?

The response to this research question was found by linking the teachers' reports on their principals' leadership and effective school correlates in schools. These two datasets were linked to find out whether there is any relationship between the principals' instructional leadership and the existence of effective school characteristics in secondary schools in the Maldives. The findings suggested that teachers' perceptions of their principals' instructional leadership have a strong relationship with the reported existence of effective school characteristics ($r = 0.72$).

The multiple linear regression conducted to predict school effectiveness from principals' instructional leadership also suggested a similar finding ($R = 0.83$). This indicated that teachers' reports on their principals' instructional leadership is highly associated with the level of school effectiveness perceived by teachers. The result of the regression also suggested that principals' role in promoting the professional development of teachers was the most contributory job function in predicting school effectiveness ($r = 0.62$) in the Maldives.

9.2.4 Research Question 4

To what extent does instructional leadership contribute to differences in pupils' academic attainment in the Maldives?

The findings related to this research question suggested that there was no direct contribution by principals' instructional leadership to individual students' attainment in the secondary school completion examination. In addition to this, it was found that factors related to individual students were the major reason for better educational attainment at secondary level in the Maldives. Among these variables, students' primary school attainment in English Language was the main contributory variable to higher attainment in the secondary school completion examination. The findings also suggested that students who were studying in economically prosperous islands had more than 80 per cent chance of achieving passes in five or more subjects in the secondary school completion examination.

Key Findings in a Nutshell

The findings of this study indicated that a large percentage of teachers acknowledged their principals' ability to demonstrate instructional leadership and the existence of effective school characteristics in schools. The analysis, conducted by using longitudinal data of students' attainment and school and community context variables, suggested that school leadership did not have any direct impact on students' attainment. However, students' prior attainment in English Language, their gender and the economic well-being of the school community were the most influential factors in higher attainment in the secondary school completion examination in the Maldives.

9.3 Limitations of the Study

I would like to acknowledge that like any other academic research, this study also has several limitations that need to be addressed. The main purpose of this acknowledgement is to agree with such limitations and to raise awareness of researchers who may wish to conduct similar studies in the Maldivian context.

One of the limitations associated with this study is related to the unavailability of crucial data. These data are mainly related to individual students' family background and SES. The literature suggested that the school attended in any natural system has little or no differential effect on individual students' academic attainment. The findings of this study also suggested that factors such as students' prior attainment and community factors play a far more significant role than school leadership and other school context factors. However, the unavailability of data did not allow me to explore the real effect of family and SES within the island communities directly. This study revealed that the highest percentage contribution to students' secondary school completion examination results was explained by students' prior attainment. However, there is a possibility that students' primary school attainment is highly influenced by the family background and socioeconomic well-being of individual students.

In addition to this, it is also known that more than 20 per cent of students' data are missing in the secondary school completion examination. It is understood that these data do not exist in the Ministry of Education. However, there is a great possibility that individual schools might have school-level data for these students. If these data could be obtained, they would give a clear picture of students' academic performance in the secondary grades. This would help to make an accurate

judgement about whether all these students were excluded from the examination based on their low academic performances or not.

Another limitation of the study is the cross-sectional survey used to gather data of principals' instructional leadership and the existence of effective school characteristics. These data are entirely based on teachers' reports. These reports are mainly from individual teachers' experiences and how they perceived their principals' ability to demonstrate instructional leadership and the existence of effective school characteristics in their school. Therefore, there is a possibility that some teachers' responses may not indicate the actual situation of the school and the principals' leadership. One of the ways to overcome this issue would be to obtain documentary evidence from schools, even if the sample was smaller than the entire population.

9.4 Implications for Educational Policy Makers in the Maldives

The findings of this study revealed students' prior attainment at primary school as one of the most influential factors in students' attainment at secondary school completion examination. It is a well-known fact that primary education is one of the most reliable indicators in predicting pupils' secondary school attainment. Moreover, there is a strong belief that primary education is the base on which all other education must be built, and its importance cannot be overestimated (Crossland, 1967).

As mentioned earlier in Chapter 1, the Maldives is the first country in the SAARC region to achieve the MDG of universal primary education. However, the quality of education in the primary grades is not considered to be at a satisfactory level. In

addition to this, the English language ability of the pupils is a great concern. This is known from the various national assessments conducted by the Ministry of Education. The national assessment conducted in 2009 suggested that less than 30 per cent of the students were able to achieve the national pass levels in both Mathematics and English Language (Aturupane & Shojo, 2012). This shows that there is a huge need to improve the literacy and numeracy of students at primary level. The result of the national assessment also indicated that students' attainment in English Language is lower than their Mathematics attainment. Therefore, it is very likely that students' low ability in English Language may have hindered their academic progress in school. As mentioned in Chapter 8, this could be due to lack of English language usage by pupils in their daily life. If the Ministry of Education wants to increase the students' pass percentage at the secondary level and improve school effectiveness in the Maldives, more importance should be given to preventing students from failing at primary grades. In this endeavour, more attention should be given to evaluate the success of English language programmes in schools and should not obscure the weakness of primary education with the introduction of ad hoc TVET programmes.

Since 2014, the Ministry of Education has provided in-service training to more than 150 school principals. These programmes are mainly conducted in the capital city Malé and in Malaysia (Ministry of Education, 2016f). The purpose of these programmes is to improve the principals' leadership in order to increase school effectiveness in the Maldives. However, the effectiveness of these training sessions is never evaluated. In addition to this, these training

programmes are not designed to address the challenges faced by individual schools.

The Ministry of Education should recognise the differences between islands and school communities. The centralised nature of school governance and the dictating of decisions from the Ministry of Education may hinder principals' leadership. Therefore, the Ministry of Education should revise its policies to cater for effective school leadership in the Maldives.

9.5 Implications for Practice

The findings revealed that teachers gave a high rating to their principals' instructional leadership and the existence of effective school correlates in secondary schools in the Maldives. However, analysis conducted by using longitudinal data of students' attainment suggested that principals' instructional leadership does not play a role in improving school effectiveness in the Maldives. This does not mean that school leadership cannot play a significant role in facilitating an environment conducive to teaching and learning. Moreover, the literature on school leadership does indicate that school leadership can have an indirect effect on students' attainment (Hallinger & Heck, 1996a; Leithwood et al., 2004; Day et al., 2016; Leithwood, Anderson, Mascall, & Strauss, 2010). In fact, this study also indicated students' primary school attainment as the major contributing factor to their secondary school attainment. Therefore, even with the current policy level challenges, principals need to emphasise improvement of the quality of primary education in their school. In this endeavour, attention should be given to raise the literacy and numeracy levels of the students.

The findings of this study also suggested that pupils' attainment is strongly linked to the socioeconomic background of the school community. Therefore, school principals can play a vital role to gather information on individual students' SES and make the authorities aware about various challenges that may be associated with lower SES and pupils' family background in the Maldives. These data can be used to formulate effective interventions to overcome disadvantages in education on Maldivian islands.

9.6 Implications for Further Research

This study highlighted various factors that may play an important role in promoting students' attainment in the Maldives. However, I would like to acknowledge that a causal model will provide more meaningful and reliable evidence that can be used to strengthen education in the Maldives. Therefore, I would like to suggest that researchers who are keen to explore the effect of leadership and other school context variables use a causal model to explain the real effects that these variables have on students' attainment in the Maldives.

A Causal Model

The findings of this nationwide study in the Maldives indicated that principals' leadership does not make any differential contribution to pupils' attainment and school effectiveness when factors related to pupils and the community are taken into consideration. Therefore, any further study that challenges these findings needs to be of a causal design that should include data of individual pupils' family backgrounds and other contextual factors that may have an impact on pupils' attainment. The most robust way of investigating the effect of principals' leadership

or any other educational programme that aims to improve pupils' attainment is by a randomised control trial (RCT). Through a large-scale RCT, information can be gathered to address the current practice of emphasising school leadership over other contextual factors that may influence pupils' attainment. Some of the areas that could be considered in conducting an RCT in the Maldives are given below.

The Quality Assurance Department (QAD) has conducted a National Assessment of Learning Objectives (NALO) in 112 schools across the nation. These tests, conducted in 2015, were designed to obtain students' learning outcomes in grades 4 and 7. From these students, the grade 7 students sat their secondary school completion examination in 2018, while the grade 4 students will complete their secondary schooling in 2021. Therefore, there is a valuable window for researchers to gather vital data such as individual students' family backgrounds and SES. In addition, this time would also allow researchers to implement any intervention techniques or randomisation of the sample that would allow them to conduct an experimental study.

It is obvious that experiments or studies that could prove causation are not limited to the above time period. However, it is unclear when the Ministry of Education will conduct the next national assessment to assess students' learning outcomes at the primary level. The sole reason why I suggested this time frame is entirely based on the availability of students' primary attainment data, which needs to be considered in any design to evaluate school effectiveness and the effect of leadership on students' attainment at the secondary level.

I admit that a causal model could also be carried out even without using the data from the QAD, since one of the most widely used indicators for school effectiveness

is students' attainment. Therefore, any research that aims to explore the effect of leadership on school effectiveness will not be robust without including students' background data. Hence, in the absence of primary school attainment data, researchers are required to conduct expensive assessments to gather information about students' prior attainment. Based on the literature and findings of this study, I propose the following factors to be included in any future research:

- Individual pupils' characteristics

- School characteristics

- Input from the Ministry of Education

- Teaching and learning process

- School leadership

Individual pupils' characteristics: Includes individual students' characteristics that are totally independent of their school environment; for example, students' family backgrounds and household incomes. A possible variable that may be considered is parental education and attitude; physical and cognitive disabilities may also be taken into consideration.

School characteristics: Includes factors required for effective teaching and learning, such as the safety of the school, the teaching staff, the infrastructure and a school culture that fosters – and values that promote – academic achievement.

Input from the Ministry of Education: All the public schools in the Maldives are funded and managed by the Ministry of Education. Therefore, the researcher can investigate the effects of various inputs from the ministry. This may reveal whether there is a fair and justifiable mechanism for funding and allocation of resources to

schools. Possible variables could be funds allocated for teaching and learning, development of infrastructure, teaching resources, funds for teacher in-service training and funding allocated for students with special needs.

Teaching and learning process: The most crucial activities that take place in any school are the learning and teaching activities in the classroom. This is the fundamental reason why a school exists. Therefore, it is important to explore factors that directly affect student learning, including learning time, teaching strategies and student assessment.

School leadership: This study used instructional leadership as identified by PIMRS to explore whether principals' leadership might have an influence on the improvement of school effectiveness. The reason why I chose to use PIMRS is mainly based on the existing literature about it. Moreover, it is also known that PIMRS is the most widely used tool to assess principals' instructional leadership. However, there are several other leadership models that are advocated to have a positive impact on students' learning and promote learning outcomes in schools. The purpose of evaluating the effect of leadership should not be limited to a single leadership approach. Therefore, consideration needs to be given to various tasks that a principal performs to facilitate teaching and learning, and principals' work to nurture a positive learning climate in the school.

Benefits and Challenges of Conducting a Causal Study in the Maldives

The most effective way to improve school effectiveness and student attainment is to understand factors that may result in the higher academic attainment of individual students. The existing educational literature in the Maldivian context indicates that

there is no single study that has been conducted based on a causal model. Therefore, it would be extremely beneficial to conduct a study that would reveal various factors causing higher educational outcomes in the Maldives. However, the task of determining the causes of students' attainment has many challenges. This is because a claim that something is a cause of something else is a strong claim. Moreover, there might often be other indirect factors linked to the causation (Gorard & See, 2013; de Vaus, 2001).

The possible challenges to carrying out such a robust study in the Maldives are not limited to the nature of the design. The culture of unwillingness to accept research findings and fear of exposing weak educational policies to the public is not something that would be taken lightly in the Maldives. The contagious and polarised political atmosphere in the Maldives has a culture of rejecting critical opinions. Due to this, there is a huge challenge for researchers to obtain the required approval from the Ministry of Education to conduct such studies in schools. The lack of a database and the difficulty of obtaining data from the Ministry of Education and other relevant authorities also make it problematic for a researcher to conduct studies in the Maldives. Therefore, I would like to call upon the authorities concerned, especially the Ministry of Education, the Department of Higher Education, National Bureau of Statistics and the Maldives National University, to evaluate current research practices and devise strategies to overcome various challenges in the Maldives.

9.7 Concluding Remarks

The study was conducted due to the introduction of the 60 per cent pass policy by the MDP government to raise the attainment of students in the secondary school completion examination. As a key step to achieve the goals of this policy, the Ministry of Education assigned targets for each school, and principals were instructed to achieve these targets. This indicates that the Ministry of Education believed that school leadership was one of the key factors in improving the attainment of the students.

However, this study suggests that students' prior attainment at primary grades, particularly in English Language, and community context variables such as the income of the school zone play a far greater role in higher attainment in the secondary school completion examination in the Maldives than principals' instructional leadership and the existence of effective school characteristics. Therefore, educational policy and practice in the Maldives need to be adjusted to enhance the quality of primary education and to prevent disadvantages in education associated with the socioeconomic status of island communities.

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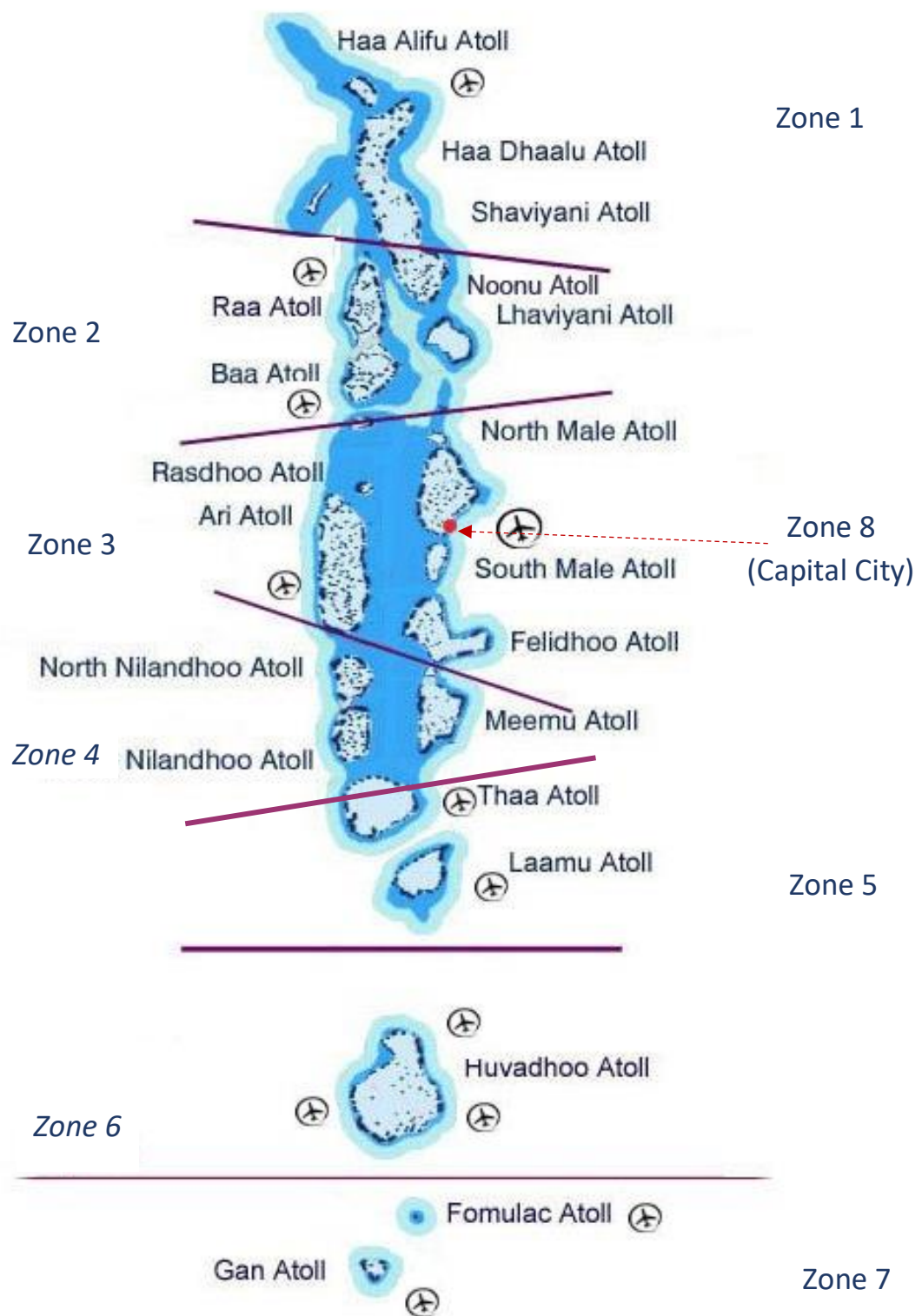
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Appendix A: Map of the Maldives

Haa Alifu Atoll

Zone 1

Haa Dhaalu Atoll

Shaviyani Atoll

Noonu Atoll

Raa Atoll

Lhaviyani Atoll

Zone 2

Baa Atoll

North Male Atoll

Rasdhoo Atoll

Ari Atoll

Zone 8
(Capital City)

Zone 3

South Male Atoll

Felidhoo Atoll

North Nilandhoo Atoll

Meemu Atoll

Zone 4   Nilandhoo Atoll

Thaa Atoll

Laamu Atoll

Zone 5

Huvadhoo Atoll

Zone 6

Fomulac Atoll

Gan Atoll

Zone 7

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Appendix B: Permission from the Ministry of Education

Ministry of Education
Policy Planning and Research Division
Malé, Maldives

Research Topic:
A Study of Instructional Leadership for Improving Educational Quality in Schools of Maldives

Main Objectives:

To investigate the level of principals' instructional leadership practices in schools of Maldives.

To analyse whether there is any relation between principals' instructional leadership and existence of "effective school" correlates in schools of Maldives

Data Needed:

Principals' instructional leadership practices.

Existence of effective school correlates.

Interviewee/s:

Teachers

1

Velaanaage, 9th Floor, Ameer Ahmed Magu, Malé 20-096, Maldives
Tel: 332 3261, 332 3262 Fax: 332 1201

Appendix C: Ethics Approval

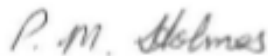**Durham University**

School of Education

1 February 2016

Ismail Shafeeu
PhD

Ismail.shafeeu@durham.ac.uk

Dear Ismail

A study of instructional leadership for improving educational quality in schools of Maldives

I am pleased to inform you that your application for ethical approval for the above research has been approved by the School of Education Ethics Committee. May we take this opportunity to wish you good luck with your research.

P. M. Holmes

Dr. P. Holmes
Chair of School of Education Ethics Committee

END OF THE THESIS

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