

Transformational Leadership in Mozambican Primary Schools

Manuel Bazo

TRANSFORMATIONAL LEADERSHIP IN MOZAMBICAN PRIMARY SCHOOLS

Manuel Bazo

DOCTORAL COMMITTEE

Chairman: Prof.dr. E.R. Seydel – University of Twente

Promotor: Prof.dr. J. Scheerens – University of Twente

Assistant promotor: Dr. J.W. Luyten – University of Twente

Members: Prof.dr. F.J.G. Janssens – University of Twente
Dr. M.L. Krüger – University of Amsterdam / Penta Nova
Prof.dr. P. Van Petegem – University of Antwerp
Prof.dr. P.J.C. Slegers – University of Twente

Transformational Leadership in Mozambican Primary Schools
Thesis University of Twente, Enschede –with refs. – with Dutch summary
ISBN 978-90-365-3199-3

DOI nummer : 10.3990/1.9789036531993

<http://dx.doi.org/10.3990/1.9789036531993>

Press: PrintPartners Ipskamp – Enschede

© Copyright 2011, Manuel Bazo

e-mail: manuel.bazo@uem.mz

All rights reserved. No part of this book may be produced in any form: by print, photocopy, microfilm, or any other means without written permission from the author.

TRANSFORMATIONAL LEADERSHIP IN MOZAMBICAN PRIMARY SCHOOLS

DISSERTATION

to obtain
the degree of Doctor at the University of Twente,
on the authority of the Rector Magnificus,
prof. dr. H. Brinksma,
on account of the decision of the graduation committee,
to be publicly defended
on Friday 10th June 2011 at 14.45

by

Manuel Bazo
born on 21st February 1962
in Chinde, Zambezia

This thesis has been approved of by the promotor prof. dr. J. Scheerens and the assistant promotor dr. J.W. Luyten.

Acknowledgements

I wish to express my warm appreciation to the many people who contributed directly or indirectly to this study. The realisation of this dissertation would not have been possible without their assistance. Sincere thanks go to my promotor Prof. Dr. Jaap Scheerens, my supervisor Dr. Hans Luyten, my co-supervisor Prof. Dr. Inocente Mutimucuo, and my first supervisor Dr. Bob Witziers, for their guidance, stimulating discussions and encouragement throughout the execution. I also wish to thank Dr. Marinus Kool, Mrs. Dia Eek, Prof. Dr. Mouzinho Mario, Prof. Dr. Arlindo Siteo, Prof. Dra. Eugenia Cossa, Dra. Carolina Chirindza, and Dra. Lurdes Cossa for their encouragement. The Faculty of Education at Universidade Eduardo Mondlane kindly allowed generous time to be spent on research work. I also wish to thank the staff of O&M Department, and the staff of IEO, Faculty of Behavioural Science at University of Twente, Dr. Adrie Visscher, Mrs. Floor van der Zwan, Dr. Cees van Vilsteren, Mr. Jan Nelissen, Mrs. Carola Groeneweg, Mrs. Dio Loman, and Mrs. Frances Leusink for their assistance and encouragement. Thanks are also due to the provincial and district Directors and Deputy Directors of Education who allowed me to administer the questionnaires, staff members at provincial and/or district Directorate of Education who voluntarily participated in the administration of questionnaires, and school principals and vice-principals, and teachers in Cabo Delgado, Nampula, Zambezia, Maputo Province, and Maputo City who took part in the field surveys.

Last, but not least, I wish to thank all my colleagues in the Faculty of Education, at Universidade Eduardo Mondlane in particular Dr. Jorge Muchanga, Dr. Jorge Fringe, Dr. Domingos Buque, Dra. Cristina Tembe, Dr. Xavier Muianga, Dr. Samuel Matlombe, Dr. Jose Blaunde, Dra. Cesaltina Noa, Dr. Lourenco Chipire, Dr. Augusto Bassa, and Dr. Manuel Rato as well as Dr. Jaime Dambe, Dra. Kitty and her family, Mr. Messias Mabjaia and his family, Dr. Armindo Cambule who, in various discussions, readily assisted with helpful comments and availed me of their invaluable insights into the issues and problems in this field.

Dedication

For my Family, who continue to astonish me with their resilience, patience, and love.

June 2011

Table of Contents

Acknowledgements	i
List of acronyms	vii
List of Figures	viii
List of Tables	ix
1. Introduction: Context and Problem Statement	1
1.1 Context and problem statement	1
1.1.1 Context	1
1.1.1.1 Educational system	2
1.1.1.2 Administration and management of education	4
1.1.1.3 Educational reform	4
1.1.1.3.1 Issues facing the education system	5
1.1.1.3.2 Curriculum implementation	6
1.1.1.3.3 Teacher training	7
1.1.1.3.4 School leaders in a decentralized context	8
1.1.1.3.5 School leaders in Mozambique	10
1.1.1.3.6 Leadership training	11
1.1.2 Problem statement	12
1.2 Research questions	12
1.3 The contents	13
1.4 Summary	13
2. Theoretical Framework	15
2.1 The role of school leaders	15
2.1.1 Instructional leadership	15
2.1.2 Transactional and transformational leadership	17
2.2 The impact of school leaders: schools as learning organisations	22
2.3 The impact of school leaders: professional development and changing teaching practices	25
2.4 Variation in school leadership	28
2.5 Self-other agreement in transformational leadership	32
2.6 Summary	33

3. Rationale, aims of the study, general expectations, research questions in more detail, and hypotheses	35
3.1 Rationale	35
3.2 Aims of the study	36
3.3 General expectations	36
3.4 Research questions in more detail	37
3.5 Hypotheses	38
3.6 Summary	42
4. Research design and methodology	47
4.1 Research approach	47
4.2 Sample and instruments	47
4.2.1 Sample	47
4.2.1.1 Background information of participating provinces, schools, school leaders, and teachers	48
4.2.1.1.1 Selected provinces	48
4.2.1.1.2 Participating schools	50
4.2.1.1.3 Background information of school leaders	52
4.2.1.1.4 Background information of teachers	53
4.2.1.1.5 Conclusion	54
4.2.2 Instruments	55
4.2.2.1 Development of instruments	55
4.2.2.2 School leader questionnaire	57
4.2.2.3 Teacher questionnaire	58
4.3 Data collection	58
4.4 Analyses	59
4.4.1 Reliability analyses	60
4.4.2 Descriptive statistics	60
4.4.3 Multilevel analyses	61
4.4.4 Correlations	62
4.5 Summary	72
5. Results	73
5.1 School leader transformational practices and educational changes	77
5.1.1 Agreement within schools on school leader transformational practices, educational changes and other variables	82
5.1.1.1 Agreement among school leaders within schools	82
5.1.1.2 Agreement among teachers within schools	84
5.1.1.3 Agreement between school leaders and teachers within schools	86
5.1.1.4 Conclusion and implications of this study	91

5.2	Variation in school leadership	91
5.2.1	Association between school context and school leader transformational practices	93
5.2.2	Association of school context, school leader characteristics, teacher background with the average over six leadership dimensions (teacher reports)	97
5.2.3	Conclusion and implication for this study	101
5.3	Teacher development activities (changed teaching practices, learning activities, and teacher commitment) and organisational learning (professional learning communities)	102
5.3.1	Agreement within schools on teaching practices, individual teacher learning activities, teacher commitment, and organisational learning	106
5.3.1.1	Agreement among teachers within schools	107
5.3.1.2	Agreement among school leaders within schools	109
5.3.1.3	Agreement between school leaders and teachers within schools	111
5.3.1.4	Conclusion and implications	113
5.4	Relations between school leader transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development), and changing teaching practices (curriculum implementation)	113
5.4.1	Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning (teacher reports) as dependent variables	114
5.4.2	Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning (teacher reports) as dependent variables, with individual teacher learning (teacher reports) included	118
5.4.3	Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning dimensions (teacher reports), and individual teacher learning (teacher reports) as dependent variable	124
5.4.4	Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports); and changing teaching practices (teacher reports) as dependent variables	127
5.4.5	Conclusion and implications	132
5.5	Summary	133

Table of Contents

6. General conclusions, discussion, and recommendations	135
References	157
Summary	165
Dutch Summary	171
Appendices	177

List of Acronyms

ADPP	Development Aid from People to People
ASDI	Swedish International Development Cooperation Agency
CFPP	Primary Teacher Training Centres
CRESCER	School Strengthen Courses: Systematic, Continuous, Experimental and Reflective
DSS	Direct Support to Schools
EAM	Educational Administration and Management
EP1	Lower primary education
EP2	Upper primary education
EPC	Complete Primary School
ESSP I	(Mozambique) Educational Sector Strategic Plan I
FoE	Faculty of Education
GTZ	Deutsch Gesellschaft fur Technische Zusammenarbeit
IAP	National Institute of Teachers Upgrading
ICC	Intra-class correlation coefficient
IFP	Teacher Training Institute
IMAP	Primary Teaching Institute, nowadays IFP - Teacher Training Institute
IMF	International Monetary Found
INDE	National Institute for Educational Development
INE	National Institute of Statistics
MEC	Ministry of Education and Culture
MinEd	Ministry of Education
OECD	Organisation for Economic Co-operation and Development
PASE	Education Sector Support Programme
QnE	Quality development in school
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SEM	Structural equation modelling
SES	Socioeconomic status
SNE	National System of Education
SPSS	Statistical Package for Social Sciences
UEM	Eduardo Mondlane University
UNESCO	United Nations Educational, Scientific and Cultural Organization
UP	Pedagogical University
ZIP	Zones of Pedagogical Influences

List of Figures

Figure 3.1	The association of school context, school leader characteristics, teacher background, other relevant teacher characteristics and school leader transformational practices and the association of school leader transformational practices and organisational learning, individual teacher learning, and changing teaching practices (with hypotheses indicated between brackets).	41
Figure 4.1	Mozambique map	49
Figure 5.1	Statistical model: association of school context, school leaders' characteristics, teachers' background with the average over six leadership dimensions based on teacher reports. The numbers relate to the hypotheses.	97
Figure 5.2	Statistical model: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning variables (teacher reports) as dependent variables, controlling for context and background characteristics; the numbers represent hypotheses	115
Figure 5.3	Statistical model: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), individual teacher learning (teacher reports), and organisational learning variables (teacher reports) as dependent variables, controlling for context and background characteristics; the numbers represent hypotheses	118
Figure 5.4	Statistical model: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), organisational learning dimensions (teacher reports), and individual teacher learning (teacher reports) as dependent variable, controlling for context and background characteristics; the numbers represent hypotheses	124
Figure 5.5	Statistical model: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports), and changing teaching practices (teacher reports) as dependent variable, controlling for context and background characteristics; the numbers represent hypotheses	128

List of Tables

Table 3.1	The alignment of the general expectations and research questions to the hypotheses	43
Table 4.1	Number of participating schools by province and level	50
Table 4.2	School level by location (rural schools vs. urban)	51
Table 4.3	Basic information regarding the scales based on school leader responses	64
Table 4.4	Basic information regarding the scales based on teacher responses	65
Table 4.5	The alignment of the general expectations, research questions and hypotheses to school leader and teacher questionnaires, and analyses	67
Table 5.1	Means and standard deviations related to school leader transformational practices based on school leader responses	78
Table 5.2	Means and standard deviation related to school leader transformational practices based on teacher responses	78
Table 5.3	Means and standard deviations related to educational changes (“concerns about competencies” and “values”) based on school leaders’ responses	80
Table 5.4	Means and standard deviations related to educational changes (“concerns about competencies” and “values”) based on teachers’ responses	80
Table 5.5	School leader intra-class correlation on school leader transformational practices	83
Table 5.6	School leader intra-class correlation on concerns about competencies and values	83
Table 5.7	School leader intra-class correlation on support from provincial and district office, task autonomy, work pace and workload, educational task orientation, and administrative task orientation	84
Table 5.8	Teacher intra-class correlation on school leader transformational practices	85
Table 5.9	Teacher intra-class correlation on concerns about competencies and values	85
Table 5.10	Teacher intra-class correlation on support from school leaders and other supervisors, and task orientation	86
Table 5.11	Correlations between teacher and school leader scores within schools concerning the six dimensions of school leader transformational practices	86
Table 5.12	Frequencies and percentages concerning difference between school leader and teacher scores on the six dimensions of school leader transformational practices	87

List of Tables

Table 5.13	Correlations between teacher and school leader scores regarding concerns about competencies and values	88
Table 5.14	Frequencies and percentages concerning difference between school leader and teacher scores on concerns about competencies and values	88
Table 5.15	Correlation between six leadership dimensions (school leader reports)	89
Table 5.16	Correlation between six leadership dimensions (teacher reports)	89
Table 5.17	Correlation between six leadership dimensions (difference leader teacher reports)	90
Table 5.18	Basic information regarding the scales based on school leader reports, teacher reports and differences leader teacher reports	90
Table 5.19	Association of school context and school leader transformational practices (based on teacher reports except when indicated)	95
Table 5.20	Association of school context, school leader characteristics, teacher background, and the average over six leadership dimensions (teacher reports) (mean = 4.02; std, deviation .73)	98
Table 5.21	Means and standard deviations related to changed teaching practices and teachers' desire to teach according to traditional methods based on teacher responses	103
Table 5.22	Means and standard deviations related to changed teaching practices and teachers' desire to teach according to traditional methods based on school leaders' responses	103
Table 5.23	Means and standard deviations related to learning activities and teacher commitment	104
Table 5.24	Correlation between four organisational learning dimensions (teacher reports)	105
Table 5.25	Means and standard deviations related to organisational learning (OL) as a whole and each OL dimension, based on teachers' response	106
Table 5.26	Teacher intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods	107
Table 5.27	Teacher intra-class correlation on instruction less whole-class oriented	108
Table 5.28	Teacher intra-class correlation on learning activities and teacher commitment	108
Table 5.29	Teacher intra-class correlation on organisational learning (professional learning communities) as a whole and on each organisational learning dimension	109
Table 5.30	School leader intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods	110
Table 5.31	School leader intra-class correlation on instruction less whole-class oriented	110

Table 5.32	Correlations between teacher and school leader scores concerning changed teaching practices and on teachers' desire to teach according to traditional methods	111
Table 5.33	Frequencies and percentages concerning difference between school leader and teacher scores on changed teaching practices and on teachers' desire to teach according to traditional methods	112
Table 5.34	Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), and organisational learning and each organisational learning dimension (teacher reports) as dependent variables; the cell entries are regression coefficients.	116
Table 5.35	Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and individual teacher learning (teacher reports); organisational learning as a whole and each organisational learning dimension (teacher reports) as dependent variables	119
Table 5.36	Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and individual teacher learning (teacher reports), and organisational learning as a whole (teacher reports) as dependent variable	122
Table 5.37	Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning dimensions (teacher reports), and individual teacher learning (teacher reports) as dependent variable	125
Table 5.38	Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports), and changing teaching practices (teacher reports) as dependent variable	129

Chapter 1

Introduction: Context and Problem Statement

In this chapter, the context and problem statement are presented in section 1.1. The introduction of the research questions is given under section 1.2. Then section 1.3 outlines the content of the chapters of this dissertation. The chapter ends with a brief summary in section 1.4.

1.1 Context and problem statement

This section presents the context and problem statement. The country profile found mainly in various documents related to Mozambique such as Ministry of Education (MinEd) (1998), MinEd (2000), MinEd (2004), Ministry of Education and Culture (MEC) (2006), and Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) (2009) is presented to provide an overview of Mozambique to familiarize the reader of this dissertation with the country. Then the section describes the situation that has led to the problem investigated in this study.

1.1.1 Context

Mozambique is situated in the south eastern part of Africa and covers an area of 799 380 square kilometres. The country is bordered by the Indian Ocean to the east, Tanzania to the north, Malawi and Zambia to the northwest, Zimbabwe to the west and Swaziland and South Africa to the southwest. Mozambique “*was a Portuguese colony from the fifteenth century until it attained political independence in 1975 after ten years of a bitter armed struggle. Peace was interrupted once again during the early 1980s when the country experienced a civil war which caused the loss of many lives and left in its wake a trail of destruction. As a result, a lot of infrastructure had to be rebuilt. Peace finally returned to Mozambique in 1992 and since then, the country has undergone rapid socio-economic development*” (Passos, Nahara, Magaia & Lauchande, 2005, p. 1; Passos, 2009, p. 14).

Mozambique is divided into 11 provinces: Cabo Delgado, Niassa, Nampula, Tete, Zambezia, Manica, Sofala, Inhambane, Gaza, Maputo Province and Maputo City. There are 146 districts in the country. According to UNESCO (2009, as cited in SACMEQ, 2009), the total population in 2006 was 20971446, the annual population growth in 2005 was 1.9%, and the rural population in 2005 was 65.5%. The capital, Maputo City, comprises about 6.1% of the total population of the country. According to the 1997 census 52.1% of the population was female. The population density was about 20.1 inhabitants per square kilometre. The gross illiteracy rate was 46.9%, and the overall illiteracy rate among the female population was 60.7%.

Mozambique is a culturally and linguistically heterogeneous country (Mucavele, 2008; van der Lijin, 2006; Passos, Nahara, Magaia & Lauchande, 2005; Passos, 2009; Maamouri, 2001), with 18 main Bantu languages and many dialects. With regard to these indigenous languages Mucavele (2008) stated that “*about 94% of the total Mozambican population speak Bantu languages*” (p. 4). The country is predominantly rural, with about 71.4% of the Mozambican population living in many small settlements located in areas which are difficult to access, due to poor transport and communication networks. The official language is Portuguese and until 2004, this was the only language of instruction. However, Portuguese is spoken by as few as approximately 30% of the population, mainly those who are resident in urban areas. Based on the available data of the 1997 census from National Institute of Statistics (INE), Mucavele (2008) specified that “*only 6.4% of urban dwellers speak Portuguese as their mother tongue, in contrast to 1.2% in rural areas. Thirty-nine percent (39%) of the total population speak Portuguese as a second language*” (p. 4). Thus, in 2004 the then Ministry of Education, currently the Ministry of Education and Culture, introduced the mother tongue as the medium of instruction, initially in some schools located in linguistically homogeneous areas.

1.1.1.1 Educational system

The Constitution of the Republic of Mozambique establishes education as a right and a duty of every citizen. This should translate into equal opportunities of access, for all citizens to the various types and levels of education. In the framework of the law, the State allows other entities, including community, co-operative, business and private bodies, to participate in education. Public education is non-religious.

During the first years of independence (1975-1980), there was a massive schooling explosion, as a result of the popular enthusiasm brought by the independence and the priority given to the education sector by the government. The MinEd (2000) stated that the number of pupils attending primary education more than double from approximately 690 000 in 1975 to approximately 1 480 000 in 1980.

According to Passos, Nahara, Magaia and Lauchande (2005), and Passos (2009), Mozambique’s education system consisted of missionary schools, public schools and private schools. The missionary schools catered for the “natives”, mainly in the rural areas. The public schools catered for the Portuguese and the “assimilados”, those Africans considered by the colonial authorities to have met certain formal standards indicating that they had successfully absorbed (assimilated) the Portuguese language and culture. These were located largely in the urban areas. The private schools were mostly church owned. These schools were mainly for the well off Portuguese and “assimilados”. Thus, at independence, Mozambique inherited an education system full of serious distortions. It was estimated that the illiteracy rate of the population aged 7 years or older was 93%.

After independence, due to the lack of teachers, the deterioration of teaching quality and difficulties at the administration level of the system, the Ministry of Education tried to control the phenomenon of the schooling explosion. A new process, consisting of the reorganisation of the school network and the curriculum and education system reform was begun. This led to the introduction of the National System of Education (SNE) in 1983. *“The SNE comprises five sub-systems, namely General Education, Adult Education, Technical/Vocational Education, Teacher Training and Higher Education. The education system is organised into three levels, namely, primary, secondary and higher education.”* (Passos, Nahara, Magaia & Lauchande, 2005, p. 3; Passos, 2009, p. 16)

Throughout the 1980s, Mozambique experienced an economic crisis as a result of economic policies which were not adjusted to the reality in the country, destructive natural disasters (floods and drought), and the civil war which began in the early 1980s and spread throughout the country for over 10 years. This affected the development of the education system and particularly the enrolment levels of primary schools.

Primary education

In Mozambique primary education is free and it is compulsory. It is subdivided into two levels, namely, the lower primary which consists of five years of schooling (Grades 1 to 5) – EP1, and upper primary which comprises two years (Grade 6 and 7) – EP2. According to Mucavele (2008), *“this basic trajectory is now subdivided into three learning cycles: Cycle One (Grades 1 and 2); Cycle Two (Grades 3 to 5); and Cycle Three (Grades 6 and 7)”* (p.71). The official school entry age is 6 years, the duration of compulsory education is 7 years and the completion age of compulsory education is 12 years. In Mozambique primary schools often teach in two shifts (MinEd, 2004; Mulkeen & Chen, 2005; Passos, Nahara, Magaia & Lauchande, 2005; Passos, 2009). A shift is a school session in which the pupil should stay in school. Because of the shortage of school places at this level, some urban primary schools function with three shifts. Mulkeen and Chen (2005) point that typically, the first-shift school session is from 7:30 a.m. to 12:30 p.m., and the second-shift session is from 1:00 p.m. 5:30 p.m. Three-shift session, often in populous urban schools, are 6:30 a.m. – 10:00 a.m., 10:30 a.m. – 1:00 p.m., and 1:00 p.m. – 5:30 p.m. In rural areas many of the schools are single shift, from 7:30 a.m. to 12:30 p.m., with some afternoon classes, mainly for the older pupils. *“After seven years of primary education the pupils have a choice of enrolling for general secondary education, lower primary teacher training colleges, basic technical and vocational schools or secondary education for adults.”* (Passos, Nahara, Magaia & Lauchande, 2005, p. 3; Passos, 2009, p. 18)

Between 1981 and 1992 the number of pupils attending EP1 remained fairly constant. Enrolment remained stable despite the fact that more than half of the available schools were destroyed and many others continued to operate under extremely difficult conditions. Millions of children who should have entered school in that period did not

do so because there were no schools in their home areas and there were no resources available to open new schools. According to the MinEd (2004), during that time more than a million Mozambicans were forced to migrate to safer areas in other parts of the country and to neighbouring countries. Teachers had to work with little support. School supervision activities were no longer carried out due to lack of security and due to economic crisis. The efficiency of the system, which was already low, decreased further as a result of the instability caused by the civil war. Repetition and drop-out rates as high as 30% were common and in some provinces this level was surpassed. EP2 was not as strongly affected as EP1 (MinEd, 2004).

More recently and according to UNESCO (2009, as cited in SACMEQ, 2009), the total net enrolment in primary education in 2006 was 76% of the population as a whole, of which 73.1% and 79% was female and male, respectively. The pupil-teacher ratio was 67.4 pupils per teacher.

1.1.1.2 Administration and management of education

In Mozambique, the Ministry of Education and Culture is responsible for the administration of all educational institutions in the country. As of 2008 the apex of the Ministry comprised the Minister of Education and Culture, two Vice-Ministers and the Permanent Secretary. The Ministry comprises 10 National Directorates (Finance and Administration, General Education, Technical and Vocational Educational, Human Resources Development, Inspectorate, Planning and Cooperation, Adult Education, Coordination of Higher Education, Special Programmes, and Culture).

Each of the 11 provinces has a Provincial Directorate of Education headed by a Provincial Director. Below the Provincial Directorate is the District Directorate headed by a District Director. Below the District is the school which is headed by a School Director (Passos, Nahara, Magaia & Lauchande, 2005; Passos, 2009).

1.1.1.3 Educational reform

The improvement of schools in developing countries is a continuing concern for the World Bank, which is now the largest single source of external financing in developing countries (World Bank, 1995, as cited in Saunders, 2000, p. 20). “*Bank programs encourage governments to give a higher priority to education and educational reform and the spread of education has helped to reduce poverty*” (Saunders, 2000 p. 20). According to Yu (2007) “*The World Bank has been promoting decentralisation and school autonomy as part of the reforms for school-or site-based management in developing countries.*” (p. 13). By the end of 1992 the government decided to fundamentally reform the National Education System of Mozambique through the decentralisation, privatisation, and reorganisation of teacher training, the revitalisation of Zones of Pedagogical Influence (ZIPs), the creation of community schools, the creation

of capacity for intervention and support at the level of District Directorates, and curricular changes to include more relevant areas and teaching methods.

Since that time, the planning and administration of the National Education System has evolved progressively towards decentralisation, making local bodies and schools more autonomous and increasingly responsible for formulating and implementing programmes. The Ministry of Education (2000) pointed out that its mandate would therefore essentially consist of co-ordinating, regulating and monitoring the activities being implemented by local governing bodies, reducing regional differences and guaranteeing satisfactory levels of performance of the system. The objective of educational reform (which includes decentralisation and curriculum reform) is to create an atmosphere which is conducive to the more effective intervention of social partners, including local government, community members, civil society, national and international organisations, etc.; and an environment which is conducive to a more learner-centred approach and which improves the quality of education. This is still the government's vision and the priority of education (MEC, 2006).

The decentralised school system faces many problems. In primary education completion rates at EP1 (grades 1-5) improved from 22% in 1997 to 40% in 2003, mainly as a result of the efforts to ensure that all primary schools offer the first five years of primary education – a target which has still not been reached but has been improving – and the efforts to recruit new teachers. Indicators of internal efficiency and quality of education are less impressive. Since 1992, factors such as the quality of teachers, drop-out rates, transition rates, the number of school shifts and the pupil-teacher ratio have either only marginally improved, remained unchanged or even worsened. Completion rates are also less improved. Indeed, some indicators suggested that enrolment expansion occurred, in some instances, at the expense of quality (MinEd, 2004).

1.1.1.3.1 Issues facing the education system

As mentioned above and according to the MinEd (2004) the aim of decentralisation and curriculum reform is to strengthen schools in order to improve learning. But there are still problems in the education system. Currently, according to the MinEd (2004), instruction tends to focus on the teacher rather than on the learner, and thus gives pupils limited opportunity to apply and reflect on concepts. A recent evaluation of Mathematics, Portuguese and Social Science teaching in various provinces confirmed these findings.

“Pupils had difficulties in demonstrating higher levels of comprehension and cognitive skills. Many teachers do not know their subjects and lack the necessary skills for ensuring effective learning. In-service teacher upgrading programmes have been launched, but their coverage is limited and conditions in schools hamper the

application of new teaching strategies (classes with over 80 pupils are common in some areas)” (MinEd, 2004, p. 22).

An additional barrier to quality is the system of semi-automatic promotion or normal progression, which is the practice of promoting pupils to the next grade through formative evaluation. The main goal of this system is a reduction of repetition and drop-out rates. According to Mucavele (2008), under the new dispensation learners do not repeat grades within cycles. Although the study carried out by Assis et al. (1999, as cited in Mucavele, 2008, p. 75), revealed that student performance does not necessarily improve with repetition, and the risk of failing again and dropping out is high, due to the lack of motivation which results from failure, Takala (2004) advised that semi-automatic promotion practice “*could become more an administrative efficiency-improving measure than a significant contribution to quality improvement – the latter requiring concomitantly changing practises of teaching and formative evaluation of pupil’s actual learning*” (p. 9). These factors are exacerbated by the demands which the curriculum places on learners and teachers and, according to the MinEd (2004), by a relatively weak monitoring and evaluation of school performance. There is no integral evaluation of the pupil and the monitoring and feedback system at the school level is ad hoc.

Another issue requiring consideration is learning time. Before 2004 the EP1 curriculum was taught in 760 to 950 hours a year, but in practice the number of hours of instruction was often much lower (in part due to teacher absenteeism). The number of hours of instruction is even less in schools which function with two or three shifts. All of these factors contribute to the fact that school leavers (at EP1 and EP2 level) are often ill prepared to face the challenges of daily life (MinEd, 2004).

Nonetheless, the MinEd (2004) pointed out that it has taken concrete initiatives to address these quality issues, namely the implementation of new curriculum for primary schools and in-service teacher training.

1.1.1.3.2 Curriculum implementation

According to Passos, Nahara, Magaia and Lauchande (2005) and Mucavele (2008), curriculum development for general education (primary and secondary) is carried out by the National Institute for Educational Development (INDE). “*In 2000, MinEd initiated the process of decentralising curriculum development and monitoring. This system allows 20% of the national curriculum for basic education to be the “local curriculum”, implying that this portion of the curriculum was to be developed locally. This is one of the major innovations of the “Basic Education Curriculum Transformation in Mozambique”. It is expected that the “local curriculum” will provide for the specific learning needs of the learners.*” (Passos, Nahara, Magaia & Lauchande, 2005, p. 5). The 80% of the curriculum is centrally planned by INDE and

constitutes the “core curriculum”. Other innovations included (i) an integrated curriculum for the seven basic education grades, with knowledge structured by area rather than by separate discipline; (ii) a national curriculum with a compulsory nucleus of knowledge, skills and learning outcomes for all students in the country; (iii) the promotion of learning cycles rather than academic years; (iv) the introduction of Mozambican languages as the languages of instruction in primary schools, administered through a bilingual approach; (v) the introduction of English in the 3rd cycle (6th Grade), and (vi) the introduction of Vocational Training and Moral and Civic Education.

Thus, the MinEd developed a new curriculum for primary schools which provides for the use of mother tongue instruction in the early grades, with later transition to the Official Language, and the inclusion of local content particular to the needs of each region of the country. The government has launched training programmes to support teacher implementation of the new curriculum as part of a strengthened approach to delivering in-service teacher training. In 2004, the new basic education curriculum began to be introduced into the first grades of each cycle, namely in Grades 1, 3 and 6.

The government also established a programme for Direct Support to Schools (DSS), which provides direct grants to all EP1 schools for the purchase of supplies and learning materials to support enhanced learning and implementation of the new curriculum. Schools are also supported by a system for the production and distribution of textbooks, Caixa Escolar.

1.1.1.3.3 Teacher training

In 1992, the government introduced a variety of new modalities including that of distance education to provide more opportunities for in-service teacher training (Nakala, 2009). This commitment to creating a sustainable system to allow teachers’ professional development is reflected in the creation of the National Institute of Teachers Upgrading (IAP), which is the only institution which organises and runs distance courses using written materials.

In recent years, building new schools and training teachers continued to be the priority in response to the high demand for educational establishments. According to MEC (2006), there were 11 Primary Teacher Training Centres (CFPPs), 9 Teacher Training Institute (IFP) and 10 ADPPs Teacher Training Colleges (non-government teacher training institutes) aimed at training primary school teachers as agents of change in rural areas. ADPP – Mozambique (Development Aid from People to People) is a Mozambican Organisation governed by the ‘Law of the Associations’. The CFPPs recruit candidates with seven years of schooling and the IFP and ADPPs recruit candidates with ten years of schooling. Guided by a Teacher Training Strategy, efforts and new initiatives are currently being made to ensure the training of teachers aimed at improving the quality of education. This strategy integrates initial, in-service training

and continuous professional development of teachers. New initiatives include CRESCER (School Strengthening Courses: Systematic, Continuous, Experimental and Reflective), and distance education training of 10th grade teachers with no other professional training. CRESCER is a continual professional development system for teachers, based in the ZIPs and supported by the District Education Directorates and Teacher Training Institutions. ZIP (Zones of Pedagogical Influence) are school clusters aimed at providing support to schools by linking them under the co-ordination of the one most able to serve as a resource and training centre. They function as an organisational learning mechanism. CRESCER consists of participative, cyclical and cascade training which can be implemented flexibly. The Teacher Training Institutions are responsible for implementing training activities in each area of the curriculum in close collaboration with schools and ZIPs. Further, with regard to teacher training the Ministry is developing accelerated training programmes for Teacher Training Institutions, so that new teachers can complete their pre-service training in 12 months and quickly assume teaching positions in schools. Teachers who have completed ten years of schooling are provided with one year of intensive pre-service training, followed by a year of supervised practice accompanied by in-service training and support (MinEd, 2000).

1.1.1.3.4 School leaders in a decentralised context

Whether or not decentralisation efforts benefit the education system is dependent on the quality of leadership, amongst other things. According to Davis and Ellison (1997) the success of reforms is determined not only by the nature of the reforms themselves and how they are implemented, but also by a secondary wave of reforms – changes in the leadership and management behaviour of individual school leaders. The key to full realisation of effective schooling in a reformed and restructured education system depends on the capability of the leaders and staff at the Ministry, provincial, district and school levels. Effective leaders need to have a clear understanding of their own leadership and management skills within that environment. Only through this combination can they undertake successfully the key tasks of leading and managing their organisations.

Effective leadership is also needed to ensure school effectiveness in a decentralised system, whereby the task of ensuring the quality of education is increasingly the responsibility of school administrators. Beck (1999) suggested that, within a decentralised system, a prerequisite for improving schools and their capacity to help pupils learn is that schools must have high quality leaders and leaders who take their own continuous development seriously. Leadership in the context of transformational change requires a learning leader (Marks et al., 2000, as cited in Silins & Mulford, 2002).

According to Silins, Mulford and Zarins (2002), Wohlstetter, Van Kirk, Robertson, and Mohrman (1997) reported findings from their study of schools which were involved in curriculum and instruction reform. This study concluded that decentralised management works best when there are conditions in place which support organisational learning and integrating processes. Based on his study for the OECD, Mulford (2003) found that there are different degrees or models of decentralisation in different countries as well as for different functions. He pointed out that with decentralisation the administrative role of the principal has evolved from the practicing teacher, with added technical and administrative duties, to the full-time manager and developer of human, financial and physical resources. In some countries school directors (principals) are responsible for the quality of their schools as well as for all personnel matters including hiring and firing, staff appraisals, and union negotiations. Regarding the curriculum Mulford (2003) found that there is no stable model. In some countries the movement is towards far greater school autonomy in curriculum matters, while other countries opted for a centrally defined model, even though they may currently be looking for ways of authorising and encouraging local diversity.

With regard to school leaders in a decentralised context, Leithwood (2001) asserted that *“Evidence of the effects on school leaders of decentralisation or school based management in its various forms is quite extensive”* (p. 5). According to Leithwood (2001) and Leithwood et al. (2002, as cited in Mulford, 2003), this evidence indicates that while assumptions about the role of school leaders in decentralised settings sometimes describes what actually happens in practice, it is often not the whole story. *“Decentralisation is associated, as well, with a radically increased emphasis on budgetary considerations, less attention to providing leadership about curriculum and instruction, greatly increased time demands, and the need for more attention to time management”* (Leithwood et al., 2002, as cited in Mulford, 2003, p. 9).

Scheerens, Glas and Thomas (2003, p. 257) revealed that in developing countries factors such as achievement oriented school policy, educational leadership, consensus and co-operation among staff, opportunities for professional development of staff and parental involvement have been studied infrequently. According to Scheerens (1999, as cited in Scheerens, Glas & Thomas, 2003, p. 253) of the studies which did investigate school organisational and instructional variables, the results showed a low impact. Saunders (2000, taken from Scheerens, 1999) concluded that the main directions for future research into effective schools and schooling in developing countries are that:

- *“ The macro-level – i.e. national policy, resource allocation and implementation – needs to be evaluated alongside the micro-level;*
- *Program design for investigating and improving school effectiveness should be informed more explicitly by broad societal objectives for education;*
- *In-school factors, particularly school organisation and leadership and instructional conditions/pedagogy, will no doubt assume greater importance as systems become more decentralized and between-school variability increases;*

- *Some in-depth method for investigating processes – by direct classroom observation, for example – needs to be built into future studies” (p. 18).*

Thus, it is evident that in developing countries, where logistics and organisational conditions of programme implementation are often problematic, it is important to know how the system is governed and to know about the quality of school leaders.

Therefore, highly effective leaders are important in a decentralised system. This concept is also apparent in publications of the Mozambican Ministry of Education and Culture (MEC). MEC concluded that school directors occupy a critically important role in the education system and that the leadership which they provide will determine to a significant extent whether key elements of the education sector strategy succeed or fail.

1.1.1.3.5 School leaders in Mozambique

Decentralisation brings many new roles and tasks for school leaders. According to the MinEd (1998) the decentralisation of significant administrative authority will greatly complicate the lives of provincial, district, and school administrators. At the school level, for example, school directors will be expected to take on previously unfamiliar tasks, including curriculum development, teacher training, building maintenance, financial management, and creating liaisons with the surrounding community.

Currently, school leaders are assigned a role in tackling the aforementioned problems of under-qualification of teachers, teacher professional development and implementation of new curricula. The Ministry of Education stated explicitly, with regard to teacher professional development of teachers, that:

“... the qualification and training of school directors is an important complement to the training of teachers. Substantial investments in teacher training can have very little impact if school directors do not create a climate supportive of innovation and collaboration in their schools. Moreover, qualified school directors can provide supplementary “on the job” training for their teachers, either formally or informally (e.g., through classroom observation and subsequent discussion)” (MinEd, 1998, p. 15).

This statement shows that school change and the professional development of teachers are explicit goals for school leaders. Similar statements can be found in other publications. For example, school leaders are expected to play an important role in the development of their schools and teachers (MinEd, 2004; MEC, 2006; Nhavoto, Buendia & Bazo, 2009).

More information about the competencies needed by school administrators may be found in the work of Bazo (2002). The major goal of that research was to obtain information about the key competencies of future educational leaders within the

Mozambican context (professional profile). His findings, based upon structured interviews conducted with 60 experts, showed that respondents attach most importance to competencies related to Planning and Accountability (including financial and staff management), Educational Leadership (including instructional leadership, transformational leadership and change management), Interpersonal relations and Personal effectiveness. Other competencies deemed to be important are competencies related to Cultural Leadership and Political Leadership, although less than the competencies mentioned earlier.

1.1.1.3.6 Leadership training

In order to improve school leader competencies some training attempts have been undertaken. The Ministry of Education and Culture, in co-operation with the Pedagogical University (UP) and the Commonwealth Secretariat, has carried out pre- and in-service training programmes for school directors. These programs include: (i) “Better Schools – Resource Materials for School Heads”(educational planning, management, financial administration, and leadership), prepared co-operatively by Ministries of Education in Commonwealth Africa under the Training and Support Programme for School Heads in Africa, and with the support of ASDI and GTZ; (ii) CRESCER module (School Management), and (iii) QnE: support manual to quality development in school. The Education Sector Support Programme (PASE), supported by Finland, trained primary and secondary school principals and deputy principals in Maputo Province in research methodology related to students achievement. Finally, universities have developed programmes which attempt to improve school leader competencies. Since 1995 the Pedagogical University has developed a graduate programme (Bachelor + 2 years) in Educational planning, administration and management.

With the aim of providing the country with highly educated scholars in the field of education who would be able to plan, manage and evaluate the development of the educational system and other such entities at the societal, institutional and classroom levels, the Faculty of Education at Universidade Eduardo Mondlane (UEM) has, since February 2005, been developing a post-graduate programme (master’s degree) in Educational Administration and Management. This programme adopts a competency-based approach, which should enable school leaders to develop and reflect upon their own skills and thus improve the effectiveness of their organisations.

However, whether these training programmes have been successful is questionable. Nhavoto (2004) concluded that many training programmes lack a systematic approach and have shown no results on the capacity building of school leaders and their deputies. Similar statements, although less harsh, have been expressed by the MinEd (2004), and Nhavoto, Buendia and Bazo (2009). With regard to training these studies conclude that training does not always take into account the differences in skills and expertise and the

short and medium term impact of training is mostly not assessed - making it difficult to draw concrete conclusions about its effectiveness towards strengthening institutional capacity.

1.1.2 Problem statement

Following the decentralisation efforts of the last 17 years, school leaders are explicitly assigned tasks aimed both at developing their schools as learning organisations and at the development of teachers. It is unknown, however, whether school leaders take on these new responsibilities. The first question in this dissertation addresses this problem. Another important question is why school leaders do or do not undertake these new roles. It is assumed by the MinEd amongst others, that a large variation exists among school leaders' responses to these new roles. An interesting question then, is to explore which factors appear to be responsible for this variation in the behaviour of school leaders. Finally, the third research question deals with the impact of the behaviour of school leaders. If school leaders exhibit behaviours aimed at school change and teacher professional development in order to improve organisational learning and individual teacher learning and teaching practices, is there actually evidence for improved organisational learning, individual teacher learning and teaching practices in Mozambican schools?

1.2 Research questions

In order to generate the information needed to understand the relationship between transformational leadership and school and teacher change to continuous learning, this study addresses the following three research questions:

1. To what extent do school leaders undertake the new responsibilities (school leader transformational practices) assigned to them by the Government aimed at developing their schools and teachers?
2. Why school leaders do or do not take on these new roles?

It is assumed by the Ministry of Education and Culture that a large variation exists in the responses of school leaders to these new responsibilities. Which factors are responsible for variation in school leaders taking on or not taking on these roles? School characteristics (e.g. school composition), teacher background (e.g. gender, age, experience as teacher, and task perceptions), and school leader characteristics (e.g. gender, age, experience in leadership, experience as a teacher, and task perception), appear to be important in explaining differences in leadership behaviours. In the context of Mozambique the issues of expertise (competencies and training in teaching and training in leadership and management) are important. More details regarding variation in school leadership are provided in Chapters 2 and 3.

3. For those school leaders who do exhibit behaviours aimed at school change and the professional development of teachers is there evidence that these behaviours

result in improved organisational learning, individual teacher learning and teaching practices in Mozambican schools?

1.3 The contents

This dissertation is divided into six chapters. The current chapter provides an introduction, which has given a brief overview of the study concentrating on the context of the study, looking into the Mozambican education system as well as on the problem statement and research questions. In Chapter 2, there is a discussion of theoretical background by reviewing the literature that guided the study, exploring the nature of transformational leadership, the focus of which is on six dimensions of school leaders' transformational practices (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation) as well as on organisational learning, individual teacher learning, and changing teaching practices. In Chapter 3 the rationale, the aim of the study, the general expectations, the research questions after literature review, and the hypotheses of the study are presented. Chapter 4 deals with a variety of issues and options with regard to the research methodology used in the study. Chapter 5 concentrates on the results by discussing and analysing the findings. Finally, Chapter 6 summarises and discusses the conclusions from the results of the study and provides recommendations for future research on educational leadership practices, and educational policy.

1.4 Summary

The purpose of this chapter was to describe the situation which led to the problem investigated by this research. The context of the study and the problem statement were given as well as an introduction of the research questions. Finally an outline of the content of the chapters in this dissertation was provided.

Chapter 2

Theoretical Framework

The theoretical framework for this study is based on approaches to school leadership rooted in the current leadership and organisational learning literature. This chapter deals with the role of school leaders (section 2.1), the impact of school leaders: schools as learning organisations (section 2.2), the impact of school leaders: professional development and changing teaching practices (learner centred approach and participatory methods) (section 2.3), and variation in school leadership (section 2.4). Section 2.5 is about self-other agreement in transformational leadership. Finally the summary of the chapter is presented in section 2.6.

2.1 The role of school leaders

The literature on school leadership is extremely diverse and offers a wide range of concepts to help make sense of the various aspects of leadership which appear to be important within the school setting. For example, Kruger & Witziers (2004) distinguished between at least seven leadership approaches:

- Personal and behavioural characteristics;
- Tasks and activities;
- Leadership styles;
- Situational leadership;
- Substitutes for leadership;
- The thoughts of school principals;
- Roles and competencies.

Moreover there are many specific types of leadership described in the literature, including educational leadership, curricular leadership, instructional leadership, transactional leadership, transformational leadership etc.

2.1.1 Instructional leadership

With regard to instructional leadership the consensus in the literature of the last two decades is that principals spend most of their time dealing with managerial issues rather than dealing with instructional leadership issues (Van Vilsteren, 1999). There is no single definition nor specific guidelines or direction as to what an instructional leader does (Flath, 1989, as cited in Chell, 1995). Because of the lack of consistency in definitions concerning instructional leadership some definitions are presented in the current study. Instructional leadership refers to the specific branch of educational leadership which addresses curriculum and instruction (Bird & Little, 1989, as cited in Chell, 1995; Fullan, 1991). An instructional leader is also defined as an administrator

who emphasises the process of instruction and facilitates the interaction of teacher, student and curriculum. Fullan (1991) described instructional leadership as an active, collaborative form of leadership where the principal works “*with teachers to shape the school as a workplace in relation to shared goals, teacher collaboration, teacher learning opportunities, teacher certainty, teacher commitment, and student learning*” (p. 161).

There are many actions and tasks related to instructional leadership. Instructional leadership encompasses those actions which a principal takes, or delegates to others, to promote growth in student learning (Debevoise, 1984, as cited in Chell, 1995). Van Vilsteren (1999) highlighted the increasing movement world-wide from centralised educational systems to decentralisation and autonomy of schools. He regarded this as the transfer of responsibility and accountability for the quality of public education to the local level, which means actually, according to this author, the transfer to the school leader who should be more than ever an instructional leader. As an instructional leader in management of curriculum and instruction the leader translates his view on schooling and student learning into concrete school goals and final attainment levels. Thus an instructional leader co-operates with teachers on curricular and instructional issues, encourages and rewards teachers holding them responsible for their teaching behaviour, and clearly communicates his expectations with them. Still an instructional leader visits teachers during their classroom work for evaluation and recommendations for improvement. Instructional leadership comprises tasks such as defining purpose of schooling, setting school-wide goals, providing the resources needed for learning to occur, supervising and evaluating teachers, coordinating staff development programmes, and creating collegial relationships with and among teachers.

Taking into account the operational definitions and instruments which were analysed in the review and meta-analyses of school and teaching effectiveness, Scheerens, Luyten, Steen and Luyten-de Thouars (2007, p. 63), and Scheerens, Glas, and Thomas (2003, p. 89; 264) made a general division in the conceptualisation of educational leadership, between general leadership skills applied to educational organisations (articulated leadership, information provision, orchestration of participative decision making, and coordination), and instructional/educational leadership in a narrower sense, i.e. leadership directed at the school’s primary process and its immediate facilitative conditions (time devoted to educational versus administrative tasks, the head teacher as a meta-controller of classroom processes, the head teacher as a quality controller of classroom teachers, the head teacher as a facilitator of work-oriented teams, and the head teacher as an initiator of staff professionalisation). According to Scheerens and his colleagues, instructional leadership should be considered as central, and they suggested that instructionally oriented school leadership “*does not imply that the head teacher is looking over the teachers’ shoulder all the time, but he or she is “involved” in important decisions on objectives and methods, and visibly cares about overall*

achievement levels and individual pupil's progress" (Scheerens et al., 2007, p. 64; Scheerens, Glas, & Thomas, 2003, p. 91; 268).

There are some criticisms of this form of leadership. Instructional leadership encompasses hierarchies and top-down leadership, where the leader is supposed to know the best form of instruction and closely monitors the work of teachers and students (Liontos, 1992; Poplin, 1992, as cited in Liontos, 1992). According to Poplin (1992, as cited in Liontos, 1992), one of the difficulties with this is that great administrators are not always great classroom leaders and vice-versa. She added that instructional leadership concentrates on the growth of students but rarely looks at the growth of teachers. From this perspective Van Vilsteren (1999) argued that principals are well advised to adopt a participative style in the instructional domain, and Scheerens et al. (2007) and Scheerens, Glas and Thomas (2003) considered that the meta-control of the school leader is a non-authoritarian leadership.

Research findings have suggested the importance of instructional leadership on student achievement (Fullan, 1991; Van Vilsteren, 1999). For example, Fullan (1991) concluded that *"schools operated by principals who were perceived by their teachers to be strong instructional leaders exhibited significantly greater gain scores in achievement in reading and mathematics than did schools operated by average and weak instructional leaders"* (p. 156).

2.1.2 Transactional and transformational leadership

Another perspective is provided by the concepts of transactional and transformational leadership which are discussed in this section.

In the description of the Mozambican context provided in Chapter 1, it was explained that school leaders are assigned the task of developing their schools and teachers and face the tasks of implementing a new curriculum. In this respect it seems useful to examine approaches and concepts which are closely related to these tasks. Transformational leadership appears to be the key approach in this area, because Mozambican school leaders are being asked to take on unfamiliar tasks including curriculum development and the creation of a climate supportive of innovation and collaboration in their schools as well as to provide supplementary "on the job" training for their teachers, through classroom observation and subsequent discussion.

This approach, originally developed in the non-school literature on leadership, is a term increasingly used in relation to large-scale innovation in education. This approach explicitly identifies practices which transform schools into 'learning' schools.

According to Shukla (1999) the most critical factor in achieving organisational transformation is the leadership process. Several researchers (Singh & Bhandarker, 1990, Tichy & Devanna, 1986, as cited in Shukla, 1999) have observed that change-

oriented values are transmitted through transformational leaders. The *strategic intent* of an organisation to learn can be realised through transformational leaders. Kotter (1990, as cited in Shukla, 1999) made a crucial distinction between the styles of “managers” and “leaders”. Transformational leaders are considered less of managers and more of leaders. “All successful “frame-bending” changes are characterised by an individual leader who is able to serve as a focal point for the change, and whose presence, activity, and touch have some special feel or “magic” (Nadler, 1988, as cited in Shukla, 1999, p. 251). Rolls (1996, as cited in Shukla, 1999) stated that the transformational leader provides the critical set of conditions under which employees can unfold, transform, grow and flourish in uncertainty. They model and teach skills needed to move an organisation towards becoming a learning organisation. What is distinctive about transformational leaders is their visionary ability. This means the skills to envision, energise, and enable the activities within an organisation. Shukla (1999) based on Tushman, Newman and Nadler (1988) argued that:

- The envisioning skills help articulate a credible and clear vision of the organisation which leads to the formulation of new and difficult goals, and reshaping of history to generate pride and enthusiasm for the current mission.
- The energising skills unleash the energy and enthusiasm of people for achieving new goals. Leaders achieve this by demonstrating personal excitement about and active involvement with goals and processes of transformation.
- Enabling skills are manifested in the leader’s ability to support, motivate and reward the efforts towards transformation. The leaders use their skills to build innovative systems and practices to empower people to participate in the process of transformation (p. 251).

The visionary skills of the leaders promote the creation of knowledge, and often high and seemingly impossible goals to stimulate people to review their assumptions about work, and to re-conceptualise their tasks and practices. “*Effective vision building stimulates an organisation-wide process of reflection, discussion and questioning, and often results in a redefining of the organisation’s operating paradigm*” (Shukla, 1999, p. 253). The leader can help develop learning-oriented practices which facilitate the organisation to become open to the idea of continuous change and transformation.

In educational settings, according to McGregor (1978, as cited in Bollington, 1999) transformational leadership refers to an approach to leadership which places an emphasis on engaging people in a shared vision for the organisation. For Southworth (1998), transformational leadership is concerned with school development. He argued that transformational leadership is about empowerment, team leadership, development, learning and vision. Moreover, he compared transformational leadership to transactional leadership, an approach where leaders offer some kind of reward or incentive in return for the achievement of goals. He viewed the two approaches as “complementary and supplementary”. In his opinion, transactional leadership focuses primarily on the

maintenance functions of a school, while, as noted before, transformational leadership is concerned with school development.

Liontos (1992) considered transactional leadership as leadership based on an exchange of services (from a teacher, for instance) for various kinds of rewards (such as a salary) which the leader, at least in part, controls. Mitchell & Tucker (1992, as cited in Liontos, 1992), regarded this form of leadership as working only when both leaders and followers understand and are in agreement about which tasks are important. While transactional leadership is generally sufficient for maintaining the status quo, transformational leadership is development oriented for the purpose of change (Bass, 1985, Bass & Avolio, 1990, as cited in Nguni, Slegers, & Denessen, 2006). According to Scheerens et al. (2007, p. 65) and Scheerens, Glas and Thomas (2003, p. 90; 269), these perspectives of educational leadership are inspired by the concept of the learning organisation, and *“do not create a sharp break with the longer existing conceptualisations of educational leadership, but emphasize the cultural and the staffing mode of schooling”*. Transactional and transformational leadership provide incentives and create consensus on goals for staff motivation.

Fullan (1991) stated that *“The role of the principal has become dramatically more complex, overloaded, and unclear over the past decade”* (p. 144). Evidently, and according to Chell (1995), the role of the principal has been in a state of transition, progressing from the principal as an instructional leader or master teacher, to the principal as a transactional leader and, most recently, as transformational leader.

According to Bollington (1999) transformational leadership is seen as having the potential to change a school’s culture and to create the conditions for improvement. More specifically, Hopkins, Ainscow and West (1998) identified a number of aspects of leadership which provide a basis for transforming the school. These include:

- Establishing a clear vision for the school;
- Valuing task-relevant expertise;
- Building positive relationships between leaders and followers;
- A commitment to widespread participation in decision making;
- Two-way vertical and horizontal communication patterns;
- The acceptance that leadership is a function to which many staff contribute rather than a set of responsibilities vested in an individual.

Apart from the conceptualisation of Hopkins, Ainscow and West (1998), other influential authors include Bass and Avolio (1993), Leithwood, Tomlinson and Genge (1996), and Leithwood, Jantzi and Steinbach (1999). Their approach to transformational leadership builds on the idea that in many schools teachers work autonomously and in an isolated manner. This impedes the development of teachers and the school as a whole. This implies that the school leader should not intervene directly with curriculum and instructional affairs, but primarily indirectly by transforming the school in such a way that collegial planning, collaboration and experimentation in school improvement

become possible. The main task of the school leader is to create a work environment in which teachers collaborate and, consequently, they and the school develop. A similarity between these authors concerns the characteristics assigned to transformational leadership translated into dimensions. Leithwood, Tomlinson and Genge (1996) distinguish between the following three dimensions:

- Charisma/inspiration/vision: inspiring teachers to be engaged in their work by developing, identifying, and articulating a particular vision;
- Individual consideration: concern and respect for the personal feelings and needs of teachers; and
- Intellectual stimulation: challenging teachers to professionalise in such a manner that the organisation as a whole is learning.

Geijsel (2001) concluded in her study, that when school leaders score highly on these aspects, teachers are more successful in implementing required educational changes.

Describing the nature and effects of transformational school leadership, Leithwood, Jantzi and Steinbach (1999) differentiate the following eight dimensions:

- Holding high expectations;
- Providing intellectual stimulation;
- Modelling organisational values;
- Providing individual support;
- Building collaborative cultures;
- Strengthening productive school cultures;
- Developing shared vision among staff;
- Creating structures for participation in decision-making;
- Building consensus about school goals.

There are similarities between these eight dimensions and the six dimensions of principals' transformational practices as defined by Silins and Mulford (2002), Yu, Leithwood and Jantzi (2002), Silins, Mulford and Zarins (2002), and Mulford (2003) in their research:

- Vision and goals: The extent to which the principal works toward whole staff consensus in establishing school priorities and communicates these priorities and goals to students and staff giving a sense of overall purpose;
- Culture: The extent to which the principal promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students and demonstrates a willingness to change his or her practices in the light of new understandings;
- Structure: The extent to which the principal establishes a school structure that promotes participative decision making, supports delegation and distributive leadership and encourages teacher autonomy for making decisions;

- Intellectual stimulation: The extent to which the principal encourages staff to reflect on what they are trying to achieve with students and how they are doing it; facilitates opportunities for staff to learn from each other and models continual learning in his or her own practice;
- Individualized support: The extent to which the principal provides moral support, shows appreciation for the work of individual staff and takes their opinion into account when making decisions;
- Performance expectation: The extent to which the principal has high expectations for teachers and students and expects staff to be effective and innovative.

In their study, based on these dimensions as part of eight internal school variables, Silins and Mulford (2002) regarded transformational leadership as having an impact on both organisational and individual learning because “*The principal’s role is a significant one in facilitating school restructuring in general and, in particular, the reframing of schools as learning organisations*” (p. 430).

From a school effectiveness perspective, Scheerens (1992, p.89, as cited in Scheerens et al., 2007, p. 65) and in Scheerens, Glas and Thomas (2003, p. 90; 269), stated that educational leadership (pedagogic tasks) does not always have to come down to the efforts of one main leader. For example, in schools deputy heads, in particular, fulfil educational leadership tasks. A key point is delegation because participation in decision-making could result from consensus on the basic mission for the school. Thus, “*in the end certain effects of pedagogic leadership such as a homogeneous team, will fulfil a self-generating function and act as a substitute for school leadership (according to Kerr’s (1977) idea of ‘substitutes for leadership’.*” Scheerens’s (1992) perception concurred with a study of 137 principals and vice-principals in Toronto, reported by Fullan (1996, as cited in Fullan, 2000, p. 2). In this study researchers found that 91% of principals and vice-principals responded “no” to the question, “Do you think the principal can effectively fulfil all the responsibilities assigned to him/her?” These responsibilities included, among others, management of new programmes, dealing with parent and community groups, administrative activities, staff involvement and student services, social services, and board initiatives.

In summary, although instructional leadership has shown strong effects on student achievement (Fullan, 1991), and transactional leadership has often been viewed as being complementary to transformational leadership (Liontos, 1992; Southworth, 1998), it is transformational leadership which appears to be the most relevant approach for the Mozambican context despite the fact that most of the research and theorising concerning this approach was done in North America and Europe. This approach is relevant in Mozambique because Mozambican schools are trying to democratise and because decentralisation, educational reform and school improvement benefit from this particular type of leadership (Nhavoto, Buendia & Bazo, 2009). Moreover with regard

to leadership there is no universally best way. Transformational leadership can be described as an approach that supports the development of schools as learning organisations in the way it is expected by the MinEd and other stakeholders to improve the quality of education in Mozambique because transformational leadership emphasises collaboration, team learning, learning continuously and from others which is critical in curriculum innovation and implementation and teacher professional development. In this respect this approach appears to be the most appropriate for the Mozambican context, although further validation is needed to ensure its suitability for this context. However, optimism for the usability of the approach in African settings can also be derived from the work of Nguni (2005) and Nguni, Slegers and Denessen (2006). They showed that the approach could be used in the setting of Tanzania.

2.2 The impact of school leaders: schools as learning organisations

School leaders in Mozambique are expected to change their schools into learning organisations. What kind of schools are “schools as learning organisations”? According to Silins, Mulford and Zarins (2002), the concept of schools as learning organisations has evolved in response to the difficulties experienced in bringing about school reform. *“Schools that function as learning organisations in a context of rapid global change are those that have systems and structures in place that enable staff at all levels to collaboratively and continuously learn and put new learnings to use. This capacity for collaborative learning defines the process of organisational learning in schools”* (p. 616). From an extensive review of the educational literature and literature from other fields, Silins, Mulford and Zarins (2002) defined schools as learning organisations if they:

- employ processes of environmental scanning;
- develop shared goals;
- establish collaborative teaching and learning environments;
- encourage initiatives and risk taking;
- regularly review all aspects related to and influencing the work of the school;
- recognise and reinforce good work;
- provide opportunities for continuing professional development.

According to Scheerens, Glas and Thomas (2003), organisational learning in “learning organisations” may be defined in three different ways, as:

- the sum total of individual learning of the members of the organisation (individual staff members keep their knowledge and skills “up-to date” in “learning by doing” at workplace; individual learning is converted into organisational learning through co-ordination mechanisms which support communication and collaboration between members of the organisation);
- enhancing the organisation’s instrumental effectiveness (single loop learning) (this way emphasises the need for information which can shape a gradual

improvement of primary and supporting organisational process in obtaining basic outcomes);

- enhancing the organisation's external responsiveness (double loop learning) (this way is based on an open-systems view of organisations, and on contingency theory; situational conditions set the stage for defining what organisational effectiveness means) (Scheerens, Glass, & Thomas, 2003, p. 85).

The importance of exploring different viewpoints by encouraging openness and reflectivity, a divergent thinking approach to the analysis and solution of complex problems is emphasised in organisational learning.

The literature on schools as learning organisations is closely related to the literature on professional learning communities. According to Toole and Louis (2002) professional learning communities are viewed as a form of school culture which can provide a critical context for school improvement. Visscher and Witziers (2004) stated that learning communities are characterised by practices such as reflective dialogue, classroom observation, providing feedback on each teacher's work, preparing lessons together, etc. According to Hord (1997), Rosenholtz (1989) brought teachers' workplace factors into the discussion of teaching quality, maintaining that teachers who felt supported in their own ongoing learning and classroom practice were more committed and effective than those who did not receive such confirmation. Support by means of teacher networks, co-operation among colleagues, and expanded professional roles increased teacher efficacy in meeting student needs. Rosenholtz (1989, as cited in Hord, 1997), found that teachers with a high sense of their own efficacy were more likely to adopt new classroom behaviours and also more likely to stay in the profession. McLaughlin and Talbert (1993) suggested that *"when teachers had opportunities for collaborative inquiry and the learning related to it, they were able to develop and share a body of wisdom based from their experience"* (Hord, 1997, p. 1). Darling-Hammond (1996, as mentioned in Hord, 1997), cited shared decision making as a factor in curriculum reform and the transformation of teaching roles in some schools. *"In such schools, structured time is provided for teachers to work together in planning instruction, observing each other's classrooms, and sharing feedback"* (p. 2). This issue is closely related with the assumptions of Scheerens, Glas and Thomas (2003) which are discussed in this section.

The aforementioned attributes characterise professional learning communities. Other concepts found in the literature related to professional learning communities include policy and evaluation (the extent to which student achievement is monitored); consultation and cooperation among teachers (the extent to which school staff adjust work activities through mutual consultation and the informal exchange of information); consensus (the extent to which teachers have common views on matters like the tasks and function of the school, subject matter goals, teaching, and the teaching content); and decision-making (the extent to which individual teachers can decide on their teaching

independently, and the extent to which the subject's group or grade as a "collective" plays a role) (Visscher & Witziers, 2004). This study used the concepts of policy and evaluation, consultation and co-operation among teachers, consensus, and decision-making as organisational learning dimensions.

In this study the professional learning community was seen as the professional community of learners, in which the teachers school leaders continuously seek and share learning and then act on what they learn. According to Hord (1997), the goal of their actions is to enhance their effectiveness as professionals so that students benefit. *"This arrangement has also been termed communities of continuous inquiry and improvement. As an organisational arrangement, the professional learning community is seen as a powerful staff development approach and a potent strategy for school change and improvement"* (p. 1).

With the move towards self-management of schools as a result of decentralisation transformational leadership and constructivist orientation in teaching is part of educational reform within the Mozambican educational policy, and it appears to be a top-down decision. It is evident that schools are currently confronted by these changes assigned to them by the Government. School leaders are expected to play an important role in the development of their schools and teachers.

An important question is whether school administrators are qualified for these new roles and tasks. The MinEd stated in 1998 that many school leaders are barely qualified for their new tasks. This statement was repeated by the MinEd in 2004. It pointed out that the problems identified during the implementation of the Educational Sector Strategic Plan I (ESSP I), 1999-2004, are exacerbated by the fact that major disparities and gaps exist in the levels of skills and expertise, both within and between regions and different levels of the system. This has significant implications for school effectiveness in Mozambique. Bazo (2002) concluded that, according to his respondents, the effective functioning of schools was impeded due to the lack of school leader competencies, in particular in the areas of planning, effective management and effective management of resources. Nevertheless schools are expected to become learning organisations, and transformational leadership practices are seen as having the potential to change a school's culture and create the conditions for improvement.

However, self-reflection, evaluation and performance feedback also play important roles as part of the concept of schools as learning organisations. According to Scheerens, Glas and Thomas (2003), monitoring and evaluation in education is needed to formally regulate desired levels of quality of educational outcomes and provisions; to hold educational service providers accountable for their functioning and performance and support direct democracy in education; and as a mechanism to stimulate learning and self-improvement in education. Performance feedback is considered an important basis for corrective action and improvement. Scheerens and colleagues stated that *"the*

evaluation-feedback-action sequence is a central mechanism for all kinds of learning processes, including so called “organisational learning” (p. 6)

As described in Chapter 1 (subsection 1.1.1.3.1) the educational innovations in Mozambique demand new roles for learners and teachers, but concurrently, according to the MinEd (2004), the system of monitoring and evaluation school performance is poorly developed. In Mozambique there is no integral evaluation of the pupil and the monitoring and feedback system at the school level is ad hoc. Scheerens, Glas and Thomas (2003) stated that *“from a theoretical point of view evaluation and monitoring processes are at the core of the model of “learning” organisations that seek to improve their external responsiveness and internal effectiveness. In a practical sense school evaluation and monitoring are considered as viable levers of school improvement and as a perhaps more effective innovation strategy than pro-active planning approaches.”* (p. 94) School self-reflection, evaluation and performance feedback avoid difficult processes of goal operationalisation, provide an empirical basis to any discussion on goals and means, enhance result orientation in the development of goals and norms of school functioning, presuppose collaborative activity which enhances task-related collaboration and coordination of work within schools based on a participatory approach in which staff and school management work together, and their results are a practical basis for continued internal reflection and experimentation and a concrete basis for communicating with external stakeholders (Scheerens, Glas & Thomas, 2003).

In this study it is expected that the degree to which school leaders exercise transformational leadership by holding high expectations, providing intellectual stimulation, modelling organisational values, providing individual support, building collaborative cultures, strengthening productive school cultures, developing shared vision among staff, and creating structures for participation in decision-making, can positively influence the degree to which their schools change into learning organisations, more specifically, the extent to which school teams develop into professional learning communities. However, this should be followed by self-reflection, evaluation and performance feedback at the school level.

2.3 The impact of school leaders: professional development and changing teaching practices

The professional development of teachers *“depends on the characteristics of the teachers themselves and also on the characteristics of the environment in which the teachers work and function”* (Geijsel, 2001, p. 40). Within the context of educational innovation, professional development is defined as the process by which individual teachers acquire new knowledge, skills, and values for the constant improvement of the quality of their services (Kwakman, 1999, as cited in Geijsel, 2001; Hoyle & John, 1995, as cited in Kwakman, 2003; Kwakman, 2003). For professional learning and development, four categories of activities which stimulate reflection and interaction were identified: (i) reading - keeping up with new developments in the professional field; (ii) doing and experimenting - putting developments and insights into practice;

(iii) reflection - reflecting on one's own performance; and (iv) collaboration - co-operating on policies and practical matters (Kwakman, 1999, as cited in Geijsel, 2001; Kwakman, 2003). The first three categories refer to the individual level of learning and the fourth relates to the collaborative level of learning.

With regard to the professional learning of teachers, concerning professional development, Geijsel, Slegers, Stoel and Kruger (2009) defined professional learning as the participation of teachers in a variety of learning activities within the school context. They examined the participation of teachers in (i) non-reflective learning - keeping up to date (or collecting new knowledge and information) and innovation (changed practice); and (ii) reflective learning – experimentation and reflective practice. Innovation replaced collaboration mentioned in the works of Kwakman (1999, as cited in Geijsel, 2001) and Kwakman (2003). Nevertheless, Geijsel, Slegers, Stoel and Kruger (2009) suggested that not all teacher learning promotes professional development and school improvement.

This study analyses the professional learning of teachers within the development activities of teachers (changed teaching practices, learning activities, and teacher commitment). Explicitly, in this study teacher development activities are related to changed teaching practices (the way teachers teach i.e the extent to which teachers apply a new teaching approach), learning activities (the extent to which teachers develop themselves by keeping up to date, experimenting, reflecting, co-operating, and innovating), and teacher commitment (the extent to which a teacher likes his or her present school and is committed to continue working at the present primary school). Thus, in this study, professional learning activities concerning all the categories described above (keeping up to date, experimentation, reflection, collaboration and innovation) are taken into account.

Teachers gain learning experiences by undertaking various professional development activities and assimilating new knowledge, new skills, and new values, which primarily concern didactic and pedagogical tasks and content matter (Clement, 1995; Clement & Vandenberghe, 2000; as cited in Geijsel, 2001). Sillins and Mulford (2002) considered that the processing of knowledge by individuals, while solving problems as a collective, leads to changes in values, beliefs and norms which result in the development of a unique learning culture. Geijsel, Slegers, Stoel and Kruger (2009) viewed teacher learning as a constructive and socially and culturally situated process. According to these authors, the participation of teachers in a variety of professional activities within the school influences both their own professional development and the development of the school and thus makes a significant contribution to improving teaching and learning. Another conclusion from these authors is that transformational leadership impacts on teachers. Teacher commitment and participation in professional learning activities increases when they experience transformational leadership practices. Geijsel and her colleagues found that *“through initiating and identifying vision, school leaders can*

reinforce the personal and social identification of teachers with the school, clarify the setting of personal goals, and enhance teachers' confidence in their ability to change their own practice. Through support and consideration to individual teachers, school leaders can link teachers' current needs to the school's organisational goals and mission" (Geijsel, Slegers, Stoel & Kruger, 2009, p. 419). They suggested that to be effective, school leaders need to use a combination of transformational leadership behaviours.

Changing teaching practices (learner centred approach and participatory methods)

In Mozambique, a learner-centred approach is an innovation in the new curriculum for primary schools. Before the new curriculum teaching tended to be teacher-centred and focused on memorisation and mechanised procedures rather than challenging pupils to demonstrate all their skills and abilities (Assis et al., 1992, as cited in Mucavele, 2008). According to Kwakman (2003), with new theoretical insights, learning is conceived as an active, constructive, collaborative, and context-bound activity. This idea is consistent with Terwel's (1999) observation, as cited in Mucavele (2008) that *"as consequence of many years of study, researchers now know that learning through interaction is a promising option. Under certain conditions and certain purposes, forms of cooperative learning have proved to be motivating and effective"* (p. 78). Middlewood & Burton (2001) stated that a student-centred learning approach is intended to encourage students to take more responsibility for their own learning. McLaughlin (1997, as cited in Kwakman (2003) asserted that *"Current theory holds that students learn best when they have the opportunity to actively construct their own knowledge"* (p. 149). Promoting this kind of student learning requires that teachers adopt a new pedagogical approach which implies specialised knowledge of particular disciplines in order to create stimulating learning environments conducive to respond to the learner's interests and questions (Kwakman, 2003; Van den Akker, 2003). Thus, in a learner-centred approach, teachers act as facilitators in students' learning processes. However, according to Scheerens et al. (2007, p. 203), *"D'Agostino (2000), for example found that more teacher centred approaches worked better for students in grades one and two of elementary school, whereas a more student centred, advanced skill approach worked better in grade 4."* They state that constructivist oriented teaching and more traditional direct teaching approaches could be seen as strategies which teachers might effectively apply in a differentiated way. *"In other words it might be more fruitful to see these approaches as complementing one another, depending for their effectiveness on aspects of the teaching situation, than to approach those as totally competing strategies."* (p. 203)

According to Marsh and Willis (1999) the leadership of the principal is critical to constructive curriculum change encouraging collaborative curriculum planning. Therefore school leaders may influence teachers to change their teaching practices by promoting teachers' professional learning. Some studies investigating the professional learning of teachers and student-oriented teaching practice (Slegers, Bolhuis, & Geisel,

2005; Toole & Louis, 2002) as well as exploring organisational learning and schools as learning organisations (Silins, Mulford, & Zarins, 2002) pointed out that the professional learning of teachers may be influenced by school organisational conditions such as participative decision-making, teaming, teacher collaboration, and transformational leadership.

In this study it is expected that the degree to which school leaders undertake transformational leadership activities will positively influence the degree to which their schools change and the degree to which their schools and individual teachers learn, as well as the degree to which their performance improves continuously changing teaching practices. This is because in this study, transformational leaders are defined as those who hold high expectations, provide intellectual stimulation, model organisational values, provide individual support, build collaborative cultures, strengthen productive school cultures, develop shared vision among staff, and create structures for participation in decision-making.

2.4 Variation in school leadership

Current literature on variation in school leadership indicates that both school characteristics and leader characteristics play important roles in leadership styles and forms. In this section the literature on school characteristics and leadership styles, the effects of personal characteristics including experiences, gender, and competencies in school leadership is reviewed.

In Mozambique it is acknowledged that there is large variation in the ways in which school leaders try to improve their schools (MinEd, 2004). This raises the question of what accounts for these differences. The literature on differences in educational leadership shows that variation in educational leadership is determined by characteristics of the school amongst other things (Hallinger, Bickman & Davis, 1990; Boyd 1992; Hallinger, Bickman & Davis, 1996; Leithwood & Levin, 2005; Kruger, Witziers & Slegers, 2007, as cited in Ten Bruggencate, Luyten & Slegers, 2009). For example, Hallinger, Bickman and Davis (1996) suggested that student SES (socioeconomic status) influences the type of leadership principals exercise. In their study they found that principals of higher SES schools exercised more active instructional leadership than principals of lower SES schools. Other factors also impact on the work of school leaders. While Hallinger, Bickman and Davis (1990) considered factors such as school district size and complexity, school level, district support and expectations, socioeconomic status of families, and geographic location as having effects on school leader activities, most recently Kruger, Witziers and Slegers (2007, as cited in Ten Bruggencate, Luyten & Slegers, 2009) pointed out that how school leaders approach their work is influenced by contextual variables such as the composition of the student population and the school environment.

As described above, the MinEd in 2004 points out that the problems identified during the implementation of the Educational Sector Strategic Plan I, 1999-2004, are exacerbated by the fact that major disparities and gaps exist in the levels of skills and expertise, both within and between regions and levels of the system. This has implications for school effectiveness in Mozambique where the effective functioning of schools is impeded due to the lack of school leader competencies, in particular in the areas of planning, effective management and effective management of resources. Another issue is that in Mozambique training does not always take into account the individual differences in skills and expertise nor is the short- and medium-term impact of training generally assessed. This makes it difficult to draw conclusions about the effectiveness of leadership training in strengthening institutional capacity.

The cognitive approach to school leadership emphasises the importance of role perceptions (Krüger & Witziers, 2004). If school leaders, for example, see themselves as implementers of governmental rules and laws (as according to Bazo (2002) seems to be the case), it is not likely that they will engage in activities aimed at improvement and change. As mentioned above in Mozambique decentralisation also brings many new roles and tasks for school leaders. It is expected, for example, that the decentralisation of significant administrative authority will greatly complicate the lives of provincial, district, and school administrators. At the school level, for example, school directors are expected to take on previously unfamiliar tasks, including curriculum development, teacher training, building maintenance, financial management, and creating liaisons with the surrounding community. Thus, if school leaders heed the call from educational reformers to change their schools it is obvious that they must take on new roles and not act only as implementers of governmental rules and laws. Instead they must emphasise activities aimed at improvement and change.

The importance of role perceptions can also be found in the work of those authors who make a distinction between school leaders who view themselves primarily as administrative leaders versus those who see themselves as educational leaders. Personal characteristics also play a role, in particular experience and gender. It is obvious that educational leadership is determined by experience. However, according to Najjar (2007), the results of his study in China revealed that time-related factors including age of master teachers, age of their principals, and principal leadership experiences did not influence the perceptions of teachers of both the internal and external leadership capacities of their principals. On the other hand Sarason (1982, as cited in Boyd, 1992), concluded that past experiences may influence a principal's beliefs. *“Experiences as a teacher can cause principals to view going into the classroom for purposes of evaluation and change as a hostile intrusion. A belief that the power to legislate change is no guarantee that the change will occur also may be based in part on the principal's experience as a teacher. These experiences create “the tendency to deny that problems exist in the school”* (Sarason, 1982, p. 147, as cited in Boyd, 1992, p. 2). However, Hallinger, Bickman and Davis (1996) reported that scholars assert that the values,

beliefs, and experiences of principals are salient to understanding how they exercise educational leadership. These authors added that “*researchers have found that the number of years of prior teaching experience of a principal is positively associated with instructional leadership activity*” (Hallinger, Bickman & Davis, 1996, p. 533).

Another issue relates to skills and expertise. In China, findings revealed that principals with higher education attainment levels were perceived to have higher leadership capacities (Najjar, 2007). Leithwood and Steinbach (1991) in their study on Indicators of Transformational Leadership in the Everyday Problem-Solving of School Administrators, attempted to look at differences in the problem-solving processes of “expert” and “typical” principals. They explored the extent and the nature of differences between expert and typical principals’ processes for solving problems with their staff. They also investigated how differences in principals’ problem-solving processes explain, in part, differences in their impact on schools by comparing data about principals’ problem-solving to a set of theoretical concepts associated with Leithwood and Steinbach’s (1991) understanding of “transformational leadership.” Expert and typical administrators were defined through the application of a rigorous set of standards for their professional practices. Both groups of principals had approximately 16 years of experience in school administration. The results of Leithwood and Steinbach’s (1991) research suggested differences between expert and typical principals’ problem-solving processes. According to these authors, a significant part of the explanation for differences in problem-solving may be found in the intentions of administrators as distinct from their skills or abilities. “*Experts clearly believed that thinking often leads to better results and that staff members working together could think better than when they were working alone.*”(p. 241) On the other hand expert principals have shown clear practices associated with transformational leadership in their solution processes. “*Expert principals were open-minded, honest, careful, attentive to the group’s needs, and attentive to their thinking.*” (p. 241)

With regard to gender and leadership, it is less immediately obvious that there are differences between the sexes. There is a view that gender does not influence leadership performance of principals and the perceptions of teachers (Najjar, 2007; LoVette, Holland & McCall, 1999; Zheng, 1996, as cited in Najjar, 2007). However, results of studies concerning the role of women as instructional leaders (Highsmith & Rallis, 1986, as cited in Chell, 1995; Shakeshaft, 1990, as cited in Fullan, 1991) have shown that women spend more time on educational programme improvement activities than males do. They are more attuned to curriculum issues, instructional leadership, teacher concerns, parent involvement, staff development, collaborative planning strategies, and community building. In these studies women are seen as more likely to possess characteristics associated with effective schooling. Later, Krüger (1996), in an empirical comparative study among school heads in secondary schools in the Netherlands, reported that the gender of school leaders has significant effects on leadership performance (Cubillo, 1999; Cubillo & Brown, 2003; Krüger & Witziers, 2004).

According to Krüger and Witziers (2004) research on gender and leadership (e.g. Lee, Smith, & Cioci, 1993; Krüger, 1994; Krüger, 1996) found that women are more committed to the educational side of principalship, while males are oriented more toward administrative affairs. Hallinger, Bickman and Davis (1996) also noted differences between male and female school leaders. These authors considered that female elementary school principals exercise more active leadership in the areas of curriculum and instruction than their male peers. *“Female principals tend to spend more years in the classroom prior to becoming principals than males and may therefore have greater expertise in instructional matters. It is also possible that females are better able to communicate with a predominantly female teaching force at the elementary level.”* (p. 542)

More variation in school leadership may be found in the literature on school change and implementation of educational innovations (e.g. Geijsel, Van den Berg & Slegers, 1999; Geijsel, 2001). Findings suggested that in high-innovation primary schools, teachers, internal support staff, and school leaders are more concerned with how the innovation programme can best be implemented and are more aware of what the programme can mean for pupils and colleagues. A concern was viewed as *“the composite representation of the feelings, preoccupations, thoughts and considerations related to a particular issue or task”* (Van den Berg, 1993, p. 52, as cited in Geijsel, van der Berg & Slegers, 1999, p. 178). Areas of concern related to the innovation process include: self-concerns (teachers and school leaders often wonder what the innovation will actually mean for them); task-concerns (are related to the possible impact of the innovation on the tasks of teachers and school leaders); and other-concerns (attention is focused primarily upon the functioning of others including colleagues and pupils) (Van den Berg, 1993, as cited in Geijsel, van der Berg & Slegers, 1999, p. 178).

The differences between leaders of the high-innovation schools and leaders of low-innovation schools were closely related to the dimensions of transformational leadership (Leithwood, 1994, as cited in Geijsel, van der Berg & Slegers, 1999). In high-innovation schools the vision had become mission; a transformational school leader stimulates a culture of collaboration, radiates dedication, motivates people, and convinces teachers of many things by understanding and respect for personal feelings.

To summarise, school characteristics such as the school composition, teacher background, and school leader characteristics such as gender, age, experience in leadership, and task perceptions, appear to be important factors in explaining differences in leadership behaviours. It is considered likely that at least some of these factors may play a role in the setting of Mozambique. Moreover, the issues of expertise (competencies and training in teaching and in leadership and management) are important in the context of Mozambique. In Mozambique it is acknowledged that school leaders differ in the level of competencies they possess to change schools.

In this study it is expected that the more school leaders and teachers perceive themselves to be in possession of the necessary leadership and management skills and the necessary learner-centred teaching skills the more they will engage in activities aimed at school improvement. As was noted in the context description, many school leaders in Mozambique have already received leadership training through various programmes. However, it is unknown what the impact of this training has been on the behaviour of school leaders.

There are many school leadership frameworks which define the practices of school leaders. For the purposes of this study, however, the six dimensions of principals' transformational practices as defined by Silins and Mulford (2002), Yu, Leithwood and Jantzi (2002), Silins, Mulford and Zarins (2002), and Mulford (2003) in their international studies described above, were adopted. This framework was chosen, because it is believed that it represents the most relevant comprehensive list of practices, necessary for the transformation of schools, and which are important in the context of the reform and restructuring of education in Mozambique.

2.5 Self-other agreement in transformational leadership

Although not the main focus of this study, the differences in perception between school leaders (principals and vice-principals) and teachers, both with regard to school leader activities and teacher activities were explored. There were several similar items in the questionnaires for both school leaders and teachers. Thus, in this study, school leader self-reports and teacher reports concerning school leader behaviour were used.

Several studies have investigated self-other agreement on transformational leadership in non-educational organisations (Krishnan, 2003; Awater & Yammarino, 1992; Awater & Yammarino, 1997; Godshalk & Sosik, 2000; Whittington, Coker, Goodwin, Ickes, & Murray, 2009). According to Toonen and Moolenaar (2009), research in educational contexts found effects of transformational leadership on teacher perceptions of leader effectiveness and on the implementation of innovations, teacher behaviours, teacher emotions and the participation of teachers in decision-making. They added that research on transformational school leadership has predominantly relied on surveys among teachers to assess the leadership of principals. Analysing self-other agreement on transformational school leadership concerning perceptual differences between teacher and principal related to the organisational context, Toonen and Moolenaar (2009) have found that the self-awareness of principals differs significantly from teacher perceptions of transformational school leadership. They concluded that the self-ratings of principals are consequently higher on dimensions of transformational leadership than teacher ratings.

In this study, self-other agreements were analysed on the six school leader transformational practices or dimensions (vision and goals, culture, structure,

intellectual stimulation, individualised support, and performance expectation) as well as on teaching practice. In school leader and teacher questionnaires various similar items were included. Thus, in this study, self-other agreement is explored based on the difference between the self-perception of school leaders and teacher perceptions of school leader transformational practices, and on the difference between self-perception of teachers and school leader perception of teaching practice.

2.6 Summary

Chapter 2 discussed the conceptual framework used in this research based on views about school leadership and particularly on transformational school leadership practices. The impact of school leaders, schools as learning organisations, professional development, changing teaching practices, variation in school leadership, and self-other agreement in transformational leadership were also discussed.

Chapter 3

Rationale, Aims of the Study, General Expectations, Research Questions in More Detail, and Hypotheses

This Chapter presents the rationale (section 3.1), the aims of this study (section 3.2), the general expectations (3.3), and the main questions in order to generate the information needed to understand the relationship between transformational leadership and school and teacher change (3.4). Then the hypotheses are presented in section 3.5. Section 3.6 is the summary of the Chapter.

3.1 Rationale

The MinEd (1998) stated that the central objective of the Government strategy is to provide universal access to basic education for all Mozambican children. In order to accomplish this goal, the Government aims to build a basic education system which provides Mozambican citizens with the knowledge and skills required to obtain sustainable livelihoods, accelerate the growth of the economy, and strengthen the institutions of a democratic system. Additional Government objectives include improvements in the quality of basic education and the establishment of a sustainable, flexible, and decentralised system in which responsibility is widely shared between those who work in the system and those whom it serves. This means the transfer of responsibility and accountability for the quality of public education to the local level.

From this perspective the importance of transformational leadership in transforming and improving primary schools is evident. Schools are being asked to play a broad range of central roles in Mozambique's development, and fulfilling many of these roles will not be possible without a transformation of the existing system. For example, as discussed previously, primary schools currently implement a new curriculum with many innovations and at the same time schools have unqualified and underqualified teachers as well as school leaders who are asked to improve their schools. School leaders should be able to hold high expectations, provide intellectual stimulation, model organisational values, provide individual support, build collaborative cultures, strengthen productive school cultures, develop shared vision among staff, and create structures for participation in decision-making.

In order to attain the Government goals, it is necessary for primary schools to become learning organisations. It is therefore relevant to conduct a study in Mozambique to examine the association of transformational leadership and organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and curriculum implementation (changing teaching practices) in primary education.

3.2 Aims of the study

This study aims to make a scientific contribution to the current knowledge about transformational leadership and its effects on schools' transformation towards learning organisations and on school and individual teacher learning to continuously improve their performance. Despite Mozambique being a developing country transformational leadership appears to be suitable for the Mozambican context. As mentioned in Chapter 2 (section 2.1) optimism for the usability of the approach in developing countries context more concretely in African settings can be derived from the work of Nguni (2005) and Nguni, Slegers and Denessen (2006). These studies examine the effects of transformational leadership on teacher job satisfaction, organisational commitment, and organisational citizenship and showed that this approach could be used in the setting of Tanzania. According to Nguni, Slegers and Denessen (2006), the results of their study “confirm Bass’s (1985, 1997) claim about the universality of the transformational and transactional paradigm across different nations and societies.” (p.171)

3.3 General expectations

The general expectations of this study are stated as follows:

1. It is expected that the degree to which school leaders undertake transformational leadership practices (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectation) will be positively associated with the degree to which their schools change into learning organisations.
2. It is expected that expertise (competencies and training in teaching and in leadership and management) and years of experience in school leadership will be related to transformational leadership activities.
3. It is expected that the more school leaders and teachers perceive themselves to be in possession of the necessary leadership and management skills, and the necessary learner-centred teaching skills, the more they will engage in activities aimed at school improvement, the professional development of teachers and changing teaching practices.
4. It is expected that school leader gender will be associated with transformational leadership practices.
5. It is expected that school context (e.g. province, urban-rural, pupil background and quality of teachers as perceived by school leaders), and teacher background (e.g. gender, task perception, experience, competencies and training in teaching) will be associated with transformational leadership practices.

6. It is expected that the degree to which school leaders undertake transformational leadership practices will be related to the extent to which school teams develop into professional learning communities, and also to the degree to which their schools and individual teachers learn, as well as the degree to which their performance improves changing teaching practices.
7. It is expected that individual teacher learning will be associated with organisational learning and changing teaching practices.

3.4 Research questions in more detail

In Chapter 1, three questions were asked. However, the context and literature review enable the researcher to include one more general question and several sub-questions in each general question in order to generate the information needed to understand the relationship between transformational leadership and school and teacher change to continuous learning. The more detailed sub-questions address the issue of variation in perception within schools with regard to leadership activities, individual learning and organisational learning. The following research questions will be addressed:

1. To what extent do school leaders undertake the new responsibilities (school leader transformational practices) assigned to them by the Government, aimed at the development of schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectation)?
 - a. To what extent do school leaders (principals and vice-principals) within schools (dis)agree with regard to self-reports on leadership activities?
 - b. To what extent do teachers within schools (dis)agree when reporting on the leadership activities of their school leaders?
 - c. To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities in their school?
2. Which factors account for variation in school leadership activities?
3. To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team?
 - a. To what extent do teachers within schools (dis)agree when reporting their own teaching practices and development activities?
 - b. To what extent do school leaders (dis)agree within schools in their reports on teaching practices?
 - c. To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?
4. To what extent does transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices

(curriculum implementation)? Like most other research questions, answering this question requires a number of multilevel analyses. In each case the analysis will take into account the effects of school characteristics (e.g., the school's composition), teachers' background, and school leader characteristics (e.g., gender, task perceptions, experience, competencies and training in teaching and in leadership and management).

3.5 Hypotheses

The framework of this study is based on the following hypotheses:

1. The more experienced and expert school leaders are, the more they will show clear practices associated with transformational leadership (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectation) in their problem-solving processes the more school leaders are open minded, honest, careful, attentive to group's needs, and attentive to their thinking.

As noted in the context description, many school leaders in Mozambique have received leadership training through various programmes. It is unknown, however, what impact this training has had on the behaviour of leaders. As mentioned in Chapter 2 (section 2.4), according to Leithwood and Steinbach (1991, p. 241) "*expert principals believe that thinking often leads to better results, and staff members working together could think better than when they work alone.*" On the other hand expert principals show clear practices associated with transformational leadership in their problem solving processes. "*Expert principals are open-minded, honest, careful, attentive to the group's needs, and attentive to their thinking.*" In China, findings revealed that principals with higher education attainment level were perceived to have higher leadership capacities (Najjar, 2007).

2. The more school leaders and teachers feel confident with respect to their competencies associated with curriculum and teaching innovations, the more school leaders will show transformational leadership practices and the more teachers will develop themselves and change their teaching practices.
3. The more teachers desire to teach according to traditional methods the less school leaders show transformational leadership practices and the less teachers develop themselves and do not change teaching practices.

Hypotheses 2 and 3 are related to concerns about the innovation process, such as self-concerns (teachers and school leaders often wonder what implications the innovation will have for them); task-concerns (related to the possible impact of the innovation on teacher and school leader tasks); and other-concerns (attention is focused primarily upon the functioning of others including colleagues and pupils) (Van den Berg, 1993, as

cited in Geijsel, Van den Berg & Slegers, 1999, p. 178). Findings suggest that in high-innovation primary schools, teachers, internal supporters, and school leaders are more concerned with how the innovation programme can best be implemented and are more aware of what the programme may mean for pupils and colleagues (Geijsel, van der Berg & Slegers, 1999).

4. The more schools have pupils from middle class background or from privileged families and good quality of teachers both perceived by school leaders and qualified and experienced teachers the more school leaders show transformational leadership practices.

As reported in section 2.4 the literature on differences in educational leadership has shown that variation in educational leadership is determined by the characteristics of the school amongst other things (Hallinger, Bickman & Davis, 1990; Boyd 1992; Hallinger, Bickman & Davis, 1996; Leithwood & Levin, 2005, Kruger, Witziers & Slegers, 2007, as cited in Ten Bruggencate, Luyten & Slegers, 2009). For example, Hallinger, Bickman and Davis (1996) suggested that student SES (socioeconomic status) influences the type of leadership principals exercise. In their study they found that principals in higher SES schools exercised more active instructional leadership than principals in lower SES schools. There are other factors which impact on the work of school leaders. While Hallinger, Bickman and Davis (1990) considered factors such as school district size and complexity, school level, district support and expectations, socioeconomic status of families, and geographic location as having effects on the activities of school leaders, more recently Kruger, Witziers and Slegers (2007, as cited in Ten Bruggencate, Luyten & Slegers, 2009) pointed out that how school leaders approach their work is influenced by contextual variables such as the composition of the student population and the school environment.

5. The more school leaders undertake transformational leadership practices, the more teachers will adjust work activities through mutual consultation and the informal exchange of information and the more individual teachers and school teams, as a “collective”, will play a role in decision-making for curriculum and teaching innovations and the more teachers will undertake individual teacher learning activities.

This hypothesis is based on the literature related to transformational leadership and to school change and implementation of educational innovations. For example, in high-innovation schools the vision become mission; a transformational school leader stimulates a culture of collaboration, radiates dedication, motivates people, convinces teachers of many things by understanding and respect for personal feelings (Leithwood, 1994, as cited in Geijsel, van der Berg & Slegers, 1999).

Shared decision-making is a factor in curriculum reform and in the transformation of teaching roles in schools where time is specifically provided for teachers to work together in planning instruction, observing each other's classrooms, and sharing feedback (Darling-Hammond, 1996, as cited in Hord, 1997; Scheerens, Glas, & Thomas, 2003). The leadership of the principal is critical to constructive curriculum change encouraging collaborative curriculum planning. School leaders can influence teachers to change their teaching practices (Marsh & Willis, 1999).

As mentioned in Section 2.2 there is an important role for self-reflection, evaluation, and performance feedback in schools as learning organisations. School self-reflection, evaluation and performance feedback avoid difficult processes of goal operationalisation, provide an empirical basis to any discussion on goals and means, enhance result orientation in the development of goals and norms of school functioning, presuppose collaborative activity which enhances task-related collaboration and coordination of work within schools based on a participatory approach in which staff and school management work together, and their results are a practical basis for continued internal reflection and experimentation and a concrete basis for communicating with external stakeholders (Scheerens, Glas & Thomas, 2003).

6. The more school leaders undertake transformational leadership practices, the more their teachers will undertake individual teacher learning activities and the more their school as a whole will learn and teachers will change teaching practices.

Teachers' commitment and their participation in professional learning activities increase when they experience transformational leadership practices. Through initiating and identifying vision, school leaders can reinforce the personal and social identification of teachers with the school, clarify the setting of personal goals, and enhance teachers' confidence in their ability to change their own practice. Through support and consideration of individual teachers, school leaders can link teachers' current needs to the school's organisational goals and mission (Geijsel, Slegers, Stoel & Kruger, 2009).

According to Scheerens, Glas and Thomas (2003), organisational learning in "learning organisations" can be defined in three different ways. One way is that organisational learning can be seen as the sum total of individual learning of the members of the organisation (individual staff members keep their knowledge and skills "up-to date" in "learning by doing" at workplace; individual learning is converted into organisational learning through co-ordination mechanisms which support communication and collaboration between members of the organisation).

The figure below shows the hypotheses for association of school context, school leader characteristics, teacher background, other relevant teacher characteristics and school leader transformational practices as well as the association of school leader

transformational practices and organisational learning, individual teacher learning, and changing teaching practices.

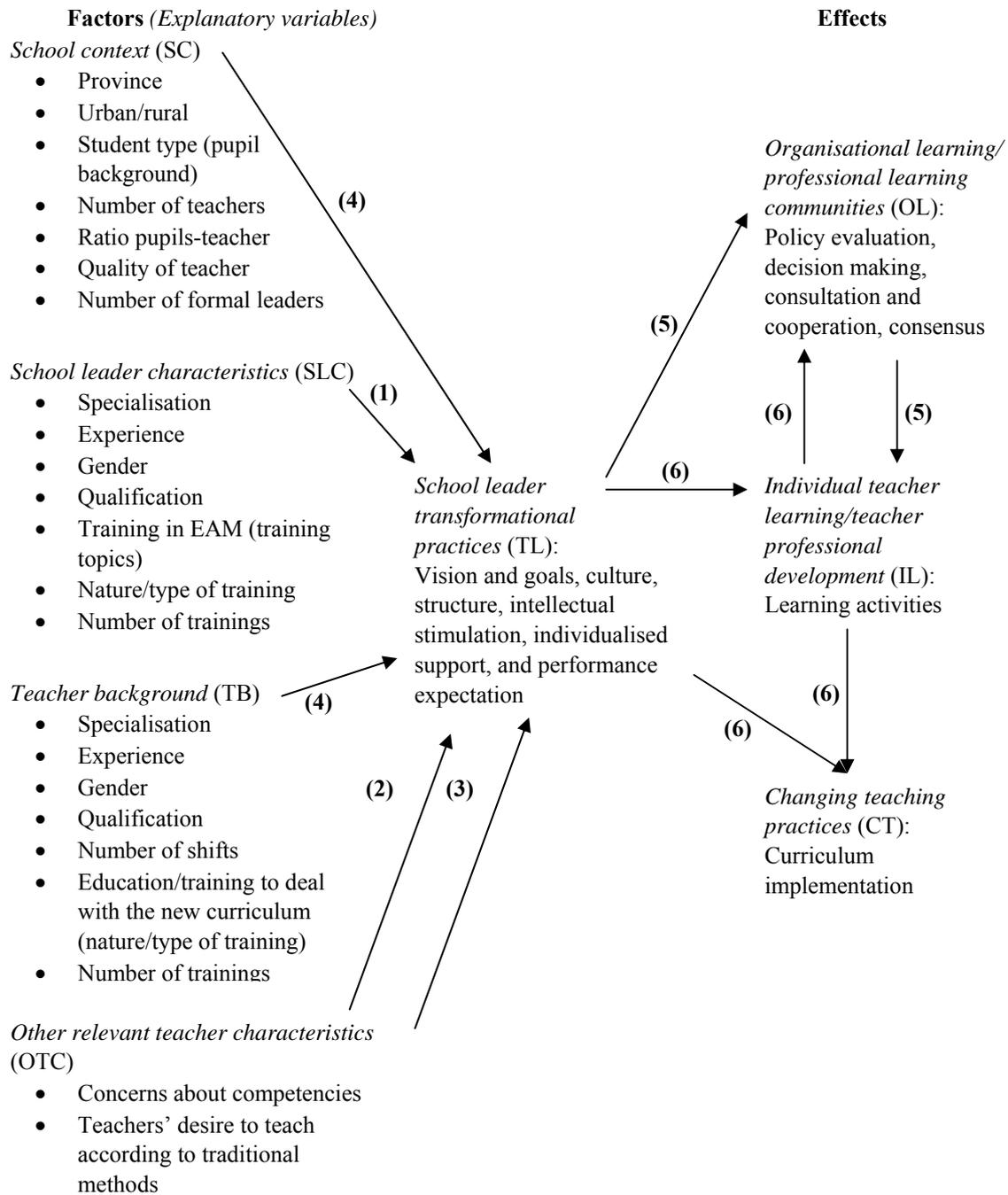


Figure 3.1: The association of school context, school leader characteristics, teacher background, other relevant teacher characteristics and school leader transformational practices and the association of school leader transformational practices and organisational learning, individual teacher learning, and changing teaching practices (with hypotheses indicated between brackets).

Based on the general expectations and hypotheses of this study, school leader characteristics (1), teachers concerns about competencies (2), teachers' desire to teach according to traditional methods (3), and school context and teacher background (4) are related to school leaders' transformational practices. School leader transformational practices are associated with organisational learning (5), individual teacher learning (6), and changing teaching practices (6). Organisational learning has a relationship with individual teacher learning (5), and changing teaching practices (6). Individual teacher learning is related to organisational learning (6) and changing teaching practices (6). Table 3.1 aligns the general expectations and research questions of this study to the hypotheses.

3.6 Summary

In this Chapter the rationale, the aims of the study, the general expectations, the research questions in detail, and the hypotheses were presented.

Table 3.1: *The alignment of the general expectations and the research questions to the hypotheses*

General expectations	Research questions	Hypotheses
<p>1. It is expected that the degree to which school leaders undertake transformational leadership practices (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation) is positively associated with the degree to which their schools change into learning organisations.</p>	<p>1. To what extent do school leaders take on the new responsibilities (school leaders' transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulations, individualized support, performance expectations)?</p> <p>a. To what extent do school leaders (principals and vice-principals) within schools (dis)agree with regard to their self-reports on leadership activities?</p> <p>b. To what extent do teachers within schools (dis)agree when reporting on the leadership activities of their school leaders?</p> <p>c. To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities their school?</p>	
<p>2. It is expected that expertise (competencies and training in teaching and in leadership and management) and years of experience in school leadership are related to transformational leadership activities.</p>	<p>2. Which factors can account for variation in school leadership activities?</p>	<p>1. The more experienced and expert school leaders are the more they show clear practices associated with transformational leadership (vision and goals, culture, structure, intellectual</p>

<p>3. It is expected that the more school leaders and teachers perceive themselves to be in possession of the necessary leadership and management skills, and the necessary centred learner teaching skills the more they will engage in activities aimed at school improvement in teacher professional development and changing teaching practices.</p> <p>4. It is expected that school leader's gender is associated with transformational leadership practices.</p> <p>5. It is expected that school context (e.g. province, urban-rural, pupils background and quality of teachers perceived by school leaders), and teachers' background (e.g. gender, task perceptions, experience, competencies and training in teaching) are associated with transformational leadership practices.</p>		<p>stimulation, individualized support, and performance expectation) in their problem solving processes.</p> <p>2. The more school leaders and teachers feel confident with respect to their competencies associated to curriculum and teaching innovations the more school leaders show transformational leadership practices and the more teachers develop themselves and change teaching practices.</p> <p>3. The more teachers desire to teach according to traditional methods the less school leaders show transformational leadership practices and the less teachers develop themselves and do not change teaching practices.</p> <p>4. The more schools have pupils from middle class background or from privileged families and good quality of teachers both perceived by school leaders and qualified and experienced teachers the more school leaders show transformational leadership practices.</p>
--	--	--

<p>6. It is expected that the degree to which school leaders undertake transformational leadership practices is related to the extent to which school teams develop into professional learning communities and the degree to which their schools and individual teachers learn, as well as the degree to which their performance improves changing teaching practices.</p>	<p>3. To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team?</p> <p>a. To what extent do teachers within schools (dis)agree when reporting their own teaching practices and development activities?</p> <p>b. To what extent do school leaders (dis)agree within schools in their reports on teaching practices?</p> <p>c. To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?</p>	
<p>7. It is expected that individual teacher learning is associated with organisational learning and changing teaching practices.</p>	<p>4. To what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation)?</p>	<p>5. The more school leaders undertake transformational leadership practices the more their teachers adjust work activities through mutual consultation and the informal exchange of information and the more individual teacher and school teams as a “collective” plays a role in decision-making for curriculum and teaching innovations and the more teachers undertake individual teacher learning activities.</p> <p>6. The more school leaders undertake transformational leadership practices the</p>

		more their teachers undertake individual teacher learning activities and the more their schools learn as a whole and teachers change teaching practices.
--	--	--

Chapter 4

Research Design and Methodology

This chapter discusses the research approach (section 4.1), sample and instruments design (section 4.2), and data collection procedures (section 4.3). Section 4.4 presents and discusses the statistical analysis technique used in this study i.e. how the data were analysed. Then the section discusses the results regarding the preliminary analyses (checking scale reliability). The chapter ends with a summary in section 4.5.

4.1 Research approach

The research questions and hypotheses were investigated by means of quantitative research methods. Surveys and closed-ended questionnaires were used to gather standardised information from a large number of teachers and school leaders on transformational leadership, organisational learning, individual teacher learning and changing teaching practices. Transformational leadership was measured based on the work of Leithwood and Montgomery (1985) and Sillins and Mulford (2002). To assess whether school teams may be typified as professional learning communities (organisational learning in schools as learning organisations), an instrument section was developed based on the work of Witziers (Visscher & Witziers, 2004), Van Woerkom (2003), Geijsel (2001) and on the work of Sillins and Mulford (2002). The individual development activities of teachers were measured by using instruments adapted from those developed by Kwakman (2002), Geijsel (2001) and Nguni (2005).

4.2 Sample and instruments

4.2.1 Sample

According to the Ministry of Education (2004), Mozambique has made noteworthy and substantial progress in improving access to primary education. Between 1992 and 2004, EP1 and EP2 enrolment rose from 1.3 million to 3.5 million, and over the same period the number of schools grew dramatically from 2,836 to 9,489. However, the transition from EP1 to EP2 remains a major problem. Significant geographical inequalities exist both between and within provinces, and between districts. “*Key education indicators such as enrolments, completion, dropouts and level of qualification of teachers are substantial lower in the north and centre of the country than the south*” (p. 20).

In order to understand and assess these differences and inequalities, 101 public primary schools, in five provinces, were invited to participate in this study. The five provinces were: in the Southern region, Maputo City (20 schools) and Maputo Province (21 schools); in the Central region, Zambézia (20 schools); and in the Northern region, Nampula (20 schools) and Cabo Delgado (20 schools). Data from school leaders and

teachers was obtained from 95 of the 101 schools invited to participate, representing a response rate of 94.1%. The response rate per province varied from 75% (Cabo Delgado) to 100% (Nampula, Maputo City, and Maputo Province). Zambézia had a 95% of response rate.

The five selected provinces represent 45.5% of the eleven Mozambican provinces, and according to available data (INE, 2006), their populations represent 58% of the total Mozambican population.

This study involved a total of 169 school leaders (principals and vice-principals), and 518 teachers from 95 schools of EP1 and EP2. There are primary schools offering only one level (EP1 or EP2), and both levels of education the so called Complete Primary Schools (EPC's).

These schools were not randomly selected because there are schools located in areas that are difficult to access due to a poor transport and communication network. The schools were selected by the authorities of provincial or district Directorate of Education and Culture, taking into account the school level, school location, and school accessibility. The authorities of the provincial or district Directorate of Education and Culture were asked about the following aspects:

- School level in this case primary schools which comprise EP1 and EP2: EP1 or EP2 – schools teaching one level; EP1 and EP2 – schools offering both levels (Complete Primary Schools - EPC's).
- School location - which relates to schools located in cities and in districts. Cities comprise urban and semi-urban areas. Schools located in urban and semi-urban areas were called urban schools. Districts include remote rural areas (isolated areas) and small villages. Schools located in districts were called rural schools.
- School accessibility - schools capable of being reached (more accessible) in both cities and districts.

Then the more accessible primary schools in cities and districts were selected.

Originally the decision was to involve 6 teachers per school. Given the presence of schools with fewer than 6 teachers it was decided to involve all teachers in schools with less than 6 teachers, and 6 teachers in schools with 6 or more. The background information of participating provinces, schools, school leaders, and teachers is presented in Section 4.2.1.1.

4.2.1.1 Background information of participating provinces, schools, school leaders, and teachers

4.2.1.1.1 Selected provinces

The provinces selected for inclusion in this study were Cabo Delgado, Maputo City, Maputo Province, Nampula, and Zambezia. These provinces were selected according to

their geographic characteristics (Northernmost and Southernmost) and demographic characteristics (most populous in each region). Cabo Delgado is the Northernmost province of Mozambique. Maputo City and Maputo Province are the Southernmost provinces. According to available data (INE, 2006) in 2006 Nampula was the most populous province in the Northern region and the second most populous in the country. Zambezia was the most populous province in Central region and the most populous in the country.

The figure below shows the map of Mozambique, and following that the profile of each selected province is given.



Figure 4.1: Mozambique map

Cabo Delgado is the Northernmost province of Mozambique. It has an area of 77,867 km² and a population of 1,650,270 (INE, 2006). As well as bordering the neighbouring country of Tanzania, it borders the provinces of Nampula and Niassa. The region is an

ethnic stronghold of the Makonde tribe. Macua and Mwani ethnic groups are also present.

Maputo City, formerly Lourenço Marques, is the capital and the largest city in Mozambique. In 2006 it had an official population of approximately 1,244,227 (INE, 2006). The actual population is estimated to be much higher due to the presence of slums and other unofficial settlements. Maputo is a melting pot of several cultures, with a strong South African influence. The Bantu and Portuguese cultures dominate, but the influence of Arab, Indian, and Chinese cultures is also felt.

Maputo Province excludes the city of Maputo (which comprises a separate province). The province has an area of 26,058 km² and in 2006 it had a population of 1.072.086 (INE, 2006). Matola is the capital of the province.

Nampula, located in the Northern region, has an area of 81,606 km² and in 2006 it had a population of 3,767,114 (INE, 2006). Nampula is the capital of the province. Under Portuguese rule this province was named Moçambique but with independence, the name was given to the entire country and the province was renamed for its capital.

Zambezia, located in the central coastal region south of Nampula and north of Sofala, according to available data in 2006 was the most populous province in Mozambique. In 2006 it had a population of 3,794,509 (INE, 2006). The provincial capital is Quelimane on the Bons Sinais River. Zambezia has a total area of 103,127 km², much of it drained by the Zambeze River.

4.2.1.1.2 Participating schools

As mentioned above 95 public primary schools were included in this research. Table 4.1 shows the frequencies of schools by province and school level.

Table 4.1: *Number of participating schools by province and level*

		Level of school		Total
		EP1 or EP2	EP1 and EP2	
School province	Maputo City	9	11	20
	Maputo Province	4	17	21
	Nampula	9	11	20
	Zambezia	4	15	19
	Cabo Delgado	4	11	15
Total		30	65	95

As mentioned above, EP1 or EP2 are schools teaching only one level. EP1 and EP2 are schools offering both levels of education (Complete Primary Schools - EPC's). The minimum of participating schools in the selected provinces were 15 (Cabo Delgado) and maximum 21 (Maputo Province). Across the country the majority of schools are EP1 (8,370) while only 1,798 schools offer the EP2 level. These figures include EPCs. No data are available for the total of Complete Primary Schools in Mozambique. The SACMEQ II study reported by Passos, Nahara, Magaia and Lauchande (2005) stated that there is an ongoing programme by the Ministry of Education to expand access to the full cycle of primary education. The International Monetary Fund (IMF) pointed out that from 2004 “*the education network distortion in EP2 is gradually being corrected with the introduction of the new curricula for primary education which foresees that all schools must teach EP1 and EP2 simultaneously. The number of schools in EP2 continues to maintain a rapid growth tendency compared with other levels.*” (p. 52). Between 1999 and 2003 the expansion of EP2 was more than 100% (454 in 1999 and 950 in 2003) (IMF, 2004). Despite the majority of Mozambican primary schools are EP1 the sample of this study presents more EPC's schools (68.4%) than those were offering only one level because the selected schools are mostly located in urban areas (71.6%). Table 4.2 presents the level of selected schools by location (rural schools vs. urban).

Table 4.2: *School level by location (rural schools vs. urban)*

Level of school * Rural school (vs. urban) Crosstabulation					
			Rural school (vs. urban)		
			Urban	Rural	Total
Level of school	EP1 or EP2	Count	15	15	30
		% within Level of school	50.0%	50.0%	100.0%
		% within Rural school (vs. urban)	22.1%	55.6%	31.6%
		% of Total	15.8%	15.8%	31.6%
	EP1 and EP2	Count	53	12	65
		% within Level of school	81.5%	18.5%	100.0%
		% within Rural school (vs. urban)	77.9%	44.4%	68.4%
		% of Total	55.8%	12.6%	68.4%
Total		Count	68	27	95
		% within Level of school	71.6%	28.4%	100.0%
		% within Rural school (vs. urban)	100.0%	100.0%	100.0%
		% of Total	71.6%	28.4%	100.0%

Table 4.2 shows that 81.5% of EPCs which participated in this study were urban schools. According to the MEC (2004), rural communities lack complete schools (to grade 7). This means that most of EPC's are located in urban areas. The MinEd (2000) and Passos, Nahara, Magaia and Lauchande (2005) pointed out that in 2000 most upper primary schools (EP2) were located in urban areas. For example, in 2000 75% of pupils in grade 6 were in urban schools. There is a difference between the proportion in the total of upper primary Mozambican schools in 2000 and the proportion of the sample in 2008 with respect to school location (rural vs. urban). It seems that the ongoing programme by the Ministry of Education to expand access to the full cycle of primary education is more accelerated in urban areas than in rural areas.

4.2.1.1.3 Background information of school leaders

Of the 169 school leaders who participated in this study, 50.9% were vice-principals. The province which provided the most school leaders was Maputo Province (23.7%) while Cabo Delgado provided the fewest (15.4%). One fifth (20.7%) of the sample of school leaders came from Nampula and one fifth from Zambezia (see appendix D, Table 1).

Three provinces had more vice-principals than principals in the sample, namely Maputo City (57.6% within province), Cabo Delgado (53.8% within province), and Zambezia (51.4% within province). These findings suggest that in these provinces vice-principals remain in schools more than principals. On the other hand Maputo Province (52.5% within province) and Nampula (54.3% within province) had more participating principals than vice-principals.

In general there were more males than females among the participating school leaders. Results showed that 60.4% of all school leaders, 57.8% of principals, and 62.8% of vice-principals were males. The findings also showed that 52.2% of participating females were principals, and differently 52.9% of participating males were vice-principals (see appendix D, Table 2).

School leadership experience

The amount of experience in leadership was grouped in four categories: 0 years; 1 year; 2-3 years; and 4 years or more. There are more participating school leaders (36.7% of total) with 2-3 years of experience in leadership than with other amount of experience. Fifty percent (50.0%) of school leaders in Maputo-Province have 2-3 years which represent 32.3% of all school leaders with this amount of experience. With regard to participating school leaders with more years of experience (4 years or more), 25.0% work in Zambezia and 27.6% of participating school leaders with less than 1 year of experience in leadership work in Maputo-City (see Appendix D, Table 3).

School leader experience versus training in educational administration and management (EAM)

Findings showed that 62.1% of all participating principals and vice-principals had received training in the area of EAM, and 25.0% of participating school leaders with 4 years or more of experience in leadership had not received yet any EAM training. It was found that 48.3% of participating school leaders with less than 1 year of experience as principal or vice-principal did receive training. The majority of school leaders who did receive training in EAM (39.0%) have 2-3 years of experience as principal or vice-principal (see Appendix D, Table 4).

School leader academic qualifications

Findings showed that majority of participating school leaders (84.0%) had basic or secondary education, and only 16.0% have higher education qualifications. Maputo City was found to have a higher number of participating principals and vice-principals with higher education qualifications than other provinces (39.4%). Cabo Delgado had no school leaders with higher education qualifications participating in this study (see Appendix D, Table 5).

School leader specialisation (professional training in teaching)

School leader specialisation refers to professional training in teaching and in school management that leads to an academic degree. Most participating school leaders (80.5%) had teacher training. Only 5.3% of participating school leaders had school management training which leads to an academic degree (see Appendix D, Table 6).

Conclusions on the representativeness of these data cannot be drawn as no information is available for the total population of principals and vice-principals in primary education in Mozambique regarding gender, experience as principal or vice-principal, teacher training nor academic qualifications.

4.2.1.1.4 Background information of teachers

This study involved 518 teachers. Findings showed that Cabo Delgado was the province which provided fewest teachers (15.6%). Although the difference was negligible, there were more females teachers (50.4%) than males in this sample. Three provinces were found to have fewer female than male participating teachers (Nampula, 42.3%; Cabo Delgado, 42.0%; and Maputo Province, 46.7%), while Maputo City (60.0%) and Zambezia (58.2%) had more female than male participating teachers (see Appendix D, Table 7).

Teacher experience

There were 4 categories concerning amount of teaching experience (0-2 years; 3-5 years; 6-11 years; and 12 years or more). It was found that 41.5% of all participating teachers had between 6 and 11 years of experience in teaching, and 24.3% of all

participating teachers had 12 years or more. The less experienced teachers (0-2) represented 18.9% of all participating teachers. Within 215 participating teachers with 6 to 11 years of experience, Maputo Province had 78 (36.3%), which represented 63.9% of all participating teachers in this province. Maputo City (46.8%) had the most experienced participating teachers (12 years or more) while Cabo Delgado had only 7 (5.6%) which represented 8.6% of all 81 participating teachers in this province (see appendix D, Table 8).

Teacher academic qualifications

The majority of teachers (92.5%) who participated in this research had basic or secondary education. Only 7.5% had higher education qualifications. In Cabo Delgado none of the participating teachers had a higher education qualification. Maputo City had 24 participating teachers with higher education qualifications which represented 20.0% of participating teachers from that province and 61.5% of all 39 participating teachers who had higher education qualifications (see Appendix D, Table 9). With respect to the academic qualifications of teachers, the sample was found to be representative of the total population of teachers in primary education in Mozambique where 91.9% of teachers in primary education have basic or secondary education (see Appendix D, Table 11).

Teacher experience versus specialisation (professional training in teaching)

Teacher specialisation refers to professional teacher training which leads to an academic degree. In this sample there were more teachers (74.1%) who had received teacher training than those who had not. Only 68.4 % of teachers with up to two years of teaching experience and 69.6% of participating teachers with three to five years experience had received teacher training. Differently, 83.3% of participating teachers with six to eleven years experience had received training in teaching. Within the most experienced group of participating teachers (those with twelve or more years), only 65.9% had received teacher training (see Appendix D, Table 10). These findings suggest that initial, in-service training and continuous professional development of teachers is still needed. With respect to teacher professional training the sample is representative of the total population of teachers in primary education. In Mozambique 66.9% of teachers in primary education did receive training in teaching (see Appendix D, Table 12).

4.2.1.1.5 Conclusion

The background characteristics of participating provinces, schools, school leaders, and teachers were presented. With regard to participating school leader and teacher characteristics, in general few large differences between provinces or between females and males were found. The majority of school leaders and teachers were found to have had teacher training. With regard to academic qualifications, Maputo City was found to have more participating school leaders and teachers with higher education qualifications

than other provinces. The sample of teachers who participated in this research was found to be representative of the population with respect to academic qualifications and professional training (teacher training).

4.2.2 Instruments

This study used multiple methods wherever possible. These are described further in the next section. With the goal of gathering data by quantitative methods, an individual questionnaire was administered, to an average of two school leaders (principals and vice-principals) and another questionnaire to an average of five teachers at each of the 95 participating schools. The research instruments included questions with 5-point Likert scale responses (ranging from strongly disagree or not important (1) to strongly agree or very important (5)), other closed questions and a few open-ended questions.

The school leaders and the teachers completed questionnaires with items exploring transformational leadership, school change, school and leader characteristics and school leader and teacher behaviour in changing teaching practices (curriculum implementation), organisational learning (professional learning communities), and individual teacher learning (teacher professional development activities).

The information requirements were defined before the research was conducted. By defining the information requirements in advance, research is better planned and conducted with the result that the findings will be better utilised by decision-makers (Young, 1995, p. 2). This was facilitated through a list of specific requirements or questions which required answers. Thus, the instruments were based on the research questions presented in Chapters 1 and 3.

4.2.2.1 Development of instruments

Drafts of the instruments were created primarily on the basis of existing instruments and measures of transformational leadership, organisational learning, professional learning communities, professional learning of teachers, and school innovation as mentioned above.

In the adaptation of the instruments, the focus of the questionnaires was on the variables concerning educational changes, school leader transformational practices, organisational learning, individual teacher learning, and changing teaching practices:

- Educational changes included: concerns about competencies, values, support from provincial and district offices, work pace and workload, task orientation, task autonomy, and support from school leaders and other supervisors.
- School leader transformational practices referred to six dimensions: vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectations.

- Organisational learning comprised variables related to four concepts concerning professional learning communities: policy and evaluation, consultation and co-operation among teachers, decision making, and consensus.
- Individual teacher learning included: teacher professional development activities (learning activities).
- Changing teaching practices comprised variables related to a learner-centred approaches in curriculum implementation.

Variables concerning background characteristics of the selected schools, school leaders, and teachers were included in the instruments. The design of instruments (adapted from existing instruments and measures) implied the selection, suppression, modification, and refinement of some items in the context of this study. The selected variables are described in detail in subsections 4.2.2.2 and 4.2.2.3.

The variables related to the backgrounds of participating schools, school leaders, and teachers were used as independent or explanatory variables to explain their possible association with school leader transformational practices (dependent variables). Then school leader transformational practices were used as independent variables to explain their eventual association with organisational learning, individual teacher learning, and changing teaching practices (dependent variables), controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics. Most of the educational changes variables were used for additional analyses.

With regard to principal's practices "*analysis of responses using confirmatory factor analysis provided empirical evidence for conceptualising leadership practices that promote organisational learning as transformational in nature*" namely vision and goals, culture, structure, intellectual stimulation, individual support, and performance expectation (Leithwood et al., 1999; Silins et al., 1998; 2000, as cited in Silins & Mulford, 2000, p. 429, and in Silins, Mulford & Zarins, 2002, p. 620).

Before the questionnaires were used widely, the practicality and validity were tested by consulting colleagues in the Faculty of Education (FoE) in English, and the instruments were then translated from English into Portuguese. Colleagues were asked to check if the questionnaires were clear, understandable and whether school leaders as well as teachers of primary schools could complete the questionnaires. A pilot study was then conducted to test the instruments, first by administration to a number of school leaders and teachers in schools in February and October 2006 and then in school leader training in October 2007. Particular attention was paid to the utility of the aforementioned constructs within the Mozambican context. The questionnaires were administered in Portuguese and most of the informants completed the questionnaires independently without difficulty. Where possible the questionnaires were read to teachers and school

leaders by the researcher or staff members at provincial and/or district level as described in section 4.3.

4.2.2.2 School leader questionnaire

The school leader questionnaire (150 items) included:

Section 1: items regarding basic information about the informant (function starting year, sex, age, qualifications, specialisation, training in education, administration and management, and previous position).

Section 2: basic information on the school (school size: number of pupils and teachers, pupils/teacher ratio, perceived pupils composition, perceived teacher quality, number of formal leaders, and number of persons with experience in educational administration and management).

Section 3: Educational changes: 3.1 “Concerns about competencies” relates to educational changes; 3.2 “Values” (task orientation and values) is understood as the perceived importance of the tasks and the extent to which principals agree with learner centred teaching approach; 3.3 “Support from provincial and district office” refers to the relationship with the provincial and district office; 3.4 “Task autonomy”, relates to school leader autonomy from the district office; 3.5 “Changed teaching practices” refers to the way teachers teach; 3.6 “Work pace and workload”.

Section 4: Leadership of Principal and Vice-Principal - “Leadership practices”, comprise the following:

1. Vision and goals concerning the work toward whole staff consensus in establishing and communicating these priorities and goals to staff, giving a sense of overall purpose;
2. Culture, related to the promotion of an atmosphere of caring and trust among staff, setting a respectful tone for interaction with students, and demonstrating a willingness to change his or her practices in light of new understandings;
3. Structure, supporting a school structure which promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions;
4. Intellectual stimulation, encouraging staff to reflect on what they are trying to achieve with students and how they are doing it, facilitating opportunities for staff to learn from each other, and modelling continual learning in their own practice;
5. Individualised support, providing moral support, showing appreciation for the work of individual staff, and taking staff’s opinions into account when making decisions;
6. Performance expectations, having high expectations for teachers and for students and expecting staff to be effective and innovative.

4.2.2.3 *Teacher questionnaire*

The teacher questionnaire included 181 items distributed as follow:

Section 1: items regarding basic information about the informant (teaching starting year, sex, age, qualifications, specialisation, teaching grade, number of working shifts and schools, and training to deal with the new curriculum);

Section 2: Educational changes – 2.1 “Concerns about the competencies”, related to educational changes; 2.2 “Values” (Task orientation, autonomy vs. willingness to co-operate, and Values, the extent to which teachers agree with the teaching approach); 2.3 “Support from school leaders and other supervisors”;

Section 3: Professional learning communities. These include:

1. Policy and evaluation, the extent to which student achievement is monitored;
2. Consultation and co-operation among teachers, the extent to which school staff adjust work activities through mutual consultation and the informal exchange of information;
3. Consensus, the extent to which teachers have common views on matters like the tasks and function of the school, subject matter goals, teaching, and the teaching content;
4. Decision-making, the extent to which individual teachers can decide on their teaching independently, and the extent to which the subject’s group or grade as a “collective” plays a role.

Section 4: Teachers development activities. These comprise:

1. Changed teaching practices, the extent to which teachers apply new teaching approach;
2. Learning activities, the extent to which teachers undertake development activities;
3. Teacher commitment, the extent to which teacher likes present school and is committed to continue working there.

Section 5: Leadership of Principal and Vice-Principal - “Leadership practices”. These include the same six dimensions as listed in section 4 of the school leader questionnaire (Vision and goals, Culture, Structure, Intellectual stimulation, Individualised support and Performance expectations).

4.3 Data collection

Data collection took place in two phases and in two ways:

- Firstly a study of relevant documents was conducted. These documents included reports of the MinEd, reports of external partners in bilateral co-operation with Mozambique’s educational sector, and school director training programmes. This document analysis aimed to obtain insights about the MEC’s plans for the

development of the primary education system, the government and international organisations' understandings of good leadership and positive school change, and a deep understanding of the leadership training programmes which have already been conducted in Mozambique. This review of documents is reported in the context and problem statement in Chapter 1 of this dissertation.

- As mentioned above, two questionnaires with questions of classification (5-point Likert-type scale ranging from strongly disagree or not important (1) to strongly agree or very important (5), other closed-ended questions and a few open-ended questions were administered. Information about transformational leadership, school change, school and leader characteristics, and on school leader and teacher behaviour in teacher professional development and curriculum implementation was collected from school leaders (principals and vice-principals) and teachers in each of the selected schools.

The researcher and staff members at provincial and/or district Directorate of Education and Culture administered the questionnaires from February 2008 to February 2009. In Cabo Delgado Province (Pemba City and Pemba Metuge district), Nampula (Nampula City and Rapale district), and Zambezia (Nicoadala district) two staff members in each provincial and/or district directorate voluntarily participated in the administration of the questionnaires upon the researcher's request allowed by the provincial and district Directorate of Education and Culture. Before the administration of the questionnaires the researcher discussed with these staff members about how to complete the questionnaires. The research instruments for school leaders and teachers were given to principals or vice-principals. The researcher and the staff members explained how the questionnaires were to be completed. Principals or vice-principals distributed and collected the teacher questionnaires.

In Maputo City, Maputo Province, and Zambezia (Quelimane city) the researcher could not find volunteers in the provincial nor district Directorate of Education and Culture to participate in administering the questionnaires. Thus, the researcher administered the questionnaires and in some schools in Maputo City and Maputo Province his supervisor assisted who paid a visit to Mozambique in February 2009. As in other provinces the questionnaires for school leaders and teachers were given to principals or vice-principals. The researcher explained them how to fill in the instruments. Principals or vice-principals distributed and collected the teachers' questionnaires. The participants had one week to fill the questionnaires.

4.4 Analyses

Data from the questionnaires were entered in SPSS to explore descriptive statistics, conduct reliability analyses and multilevel analyses. The closed-ended questions were coded into categories along with all open-ended questions which allowed categorisation.

4.4.1 Reliability analyses

According to Garson (2010) reliability is the correlation of an item, scale, or instrument with a hypothetical one which truly measures what it is supposed to measure. Cronbach's alpha (α) is the most commonly used reliability coefficient. Cronbach's alpha can be interpreted as the percent of variance the observed scale would explain in the hypothetical true scale composed of all possible items. Alternatively, it can be interpreted as the correlation of the observed scale with all possible other scales measuring the same thing and using the same number. Commonly α of 0.6-0.7 indicates acceptable reliability, and 0.8 or higher indicates good reliability (e.g. George & Mallery, 2003, as cited in Gliem & Gliem, 2003). In this study, the reliability analysis were used

- to construct scales with a minimum reliability of .60 (Cronbach's alpha) for each concept addressed in the questionnaire. In almost every case it was possible to construct a scale with a reliability of .60 or more. The two exceptions were "work pace and workload" (based on school leader responses) and "teacher commitment" (based on teacher responses). The results of the reliability of the scales used are presented later in this section.
- to construct a variable expressing the teacher/school leader disagreement regarding school leader transformational practices to assess the correlation between teacher/school leader disagreement and (lack of) changed teaching practices. The results of these scales are presented in Chapter 5.

4.4.2 Descriptive statistics

In this study, frequencies, percentages, means and standard deviations, and cross-tabulations were used. Frequency analyses were undertaken to determine how many school leaders and teachers gave each alternative response to each question. Thus frequencies and percentages were used:

- to provide the background information concerning participating schools, school leaders, and teachers
- to report differences between school leader and teacher scores in order to answer two research questions
 - *Question 1.c* "To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities in their school?"
 - *Question 3.c* "To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?"

Answering question 1.c and question 3.c also required correlations between teacher and school leader scores (see section 4.4.4).

Means and standard deviations were used to answer the following research questions:

- *Question 1* "to what extent do school leaders take on the new responsibilities (school leaders' transformational practices) assigned to

them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectations)?” The answer to this question was based on school leader self-reports and teacher reports.

- *Question 3* “To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team?” The answer to this question concerning changed teaching practices is based on teacher reports and school leader reports. However, with regard to teacher individual learning activities and organisational learning the answer was based on teacher reports only.

As noted in section 4.2 cross-tabulations were used to compare background information of school leaders and teachers with regard to experience and qualifications between provinces, and genders.

4.4.3 Multilevel analyses

According to Burstein (1985, as cited in Hedeker, 2006), multilevel data analysis is “any set of analytical procedures that involve data gathered from individuals and from the social structure in which they are embedded and are analyzed in a manner that models the multilevel structure” (p. 3). Multilevel data analysis recognises the influence of structure on individual outcome. This procedure is used to assess the amount of variability due to each level, and to assess interaction between level effects; responses are not independent as individuals within clusters share influencing factors (Hedeker, 2006). Answering most of the research questions posed by this study required a number of multilevel analyses as explained below.

Intra-class correlation

The intra-class correlation coefficient (ICC) is used to measure inter-rater reliability for two or more raters when data may be considered interval level. ICC may be conceptualised as the ratio of between-groups variance to total variance (Garson, 2010). “Normally a correlation of .10 is interpreted as “small”; .30 is “medium” and .50 or more is large” (Cohen, 1969, as cited in Scheerens et al., 2007, p. 60). In this study intra-class correlations obtained through multilevel analyses were considered small (<.200), medium (>.200 <.400), and large (>.400). The intra-class correlations were used answering the following research questions:

- *Question 1.a* “To what extent do school leaders (principals and vice-principals) within schools (dis)agree with regard to their self-reports on leadership activities?”
- *Question 1.b* “To what extent do teachers within schools (dis)agree when reporting on the leadership activities of their school leaders?”
- *Question 3.a* “To what extent do teachers within schools (dis)agree when reporting their own teaching practices and development activities?”

- *Question 3.b* “To what extent do school leaders (dis)agree within schools in their reports on teaching practices?”

The school leader variance, teacher variance, school variance, and their significance, as well as the intra-class correlations are reported in Chapter 5.

To answer the research question below, multilevel analyses (mixed model - estimating effects) with six dimensions of school leader transformational practices as dependent variables were used.

- *Question 2* “Which factors can account for variation in school leadership activities?” The analyses were based on teacher reports, and differences between teachers and school leader reports. School leader reports were based on data aggregated at school level.

Variables such as school characteristics (e.g., the school composition), teacher background, and school leader characteristics (e.g., gender, experience, task perceptions, competencies and training) were used as explanatory variables.

To answer the following research question, multilevel analyses with six dimensions of school leader transformational practices as independent variables were used.

- *Question 4* “To what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation)?”

Like most other research questions, answering this question required a number of multilevel analyses. In each case the analysis took into account the effects of school characteristics (e.g., the school composition), teacher background, and school leader characteristics (e.g., gender, experience, task perceptions, competencies and training in teaching and in leadership and management).

4.4.4 Correlations

Correlations between teacher and school leader scores were used answering two research questions namely

- *Question 1.c* “To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities in their school?”
- *Question 3.c* “To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?”

As mentioned in subsection 4.4.2 to answer question 1.c and question 3.c also required descriptive statistics (frequencies and percentages) on difference between school leader and teacher score.

Additional analyses were conducted with regard to teachers' desire to teach according to traditional methods and whole class instruction orientation.

Subsequently preliminary analyses were conducted in order to check scale reliability. This was successful in most respects. An important issue related to whole class teaching is shown in Chapter 5 (Results).

Preliminary analyses

Reliability of the scales used

As mentioned above the aim was to construct scales with a minimum reliability of Cronbach's alpha of .60 for each concept addressed in the questionnaire. In almost every case a scale could be constructed with a reliability of .60 or more. The two exceptions were "work pace and workload" (based on school leader responses) and "teacher commitment" (based on teacher responses). In total 32 scales were constructed (14 based on school leader responses and 18 based on teacher responses). Nine school leader and teacher scales relate to the same construct (e.g. changed teaching practices). Thus several variables were measured from both the teacher and school leader perspective. These scales were based on (almost) identical items. In Tables 4.3 and 4.4 these scales are marked with an asterisk (*). The tables also report the reliability for each scale and the number of items on which they are based. Scales were based on Likert-type items with five response categories (strongly disagree – disagree – in between – agree – strongly agree). Appendix C1 provides an overview of the school leader and teacher questionnaire items that were used in constructing the scales listed in Tables 4.3 and 4.4. Table 4.5 aligns the general expectations, research questions and hypotheses of this study to the questionnaires and analyses.

Table 4.3: *Basic information regarding the scales based on school leader responses*

Label	Description	Items	Alpha
*Concerns about competencies	Expressed concern at dealing with changing demands	5	.75
Educational task orientation	Perceived importance of a number educational leadership tasks	8	.70
Administrative task orientation	Perceived importance of a number administrative duties	7	.82
*Values	The degree to which principals agree with a number of teaching approaches	8	.69
Support from provincial and district office	School leader relationship with the provincial and district office to deal with changing demands	9	.86
Task autonomy	School leader autonomy from the district office	3	.67
*Changed teaching practices	The extent to which teachers apply new teaching approach	8	.75
Work pace and workload	Perceived workload	4	.58
*Vision and goals	The school leader works toward whole staff consensus in establishing priorities and communicates these priorities and goals to staff, giving a sense of overall purpose	6	.87
*Culture	The school leader promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students, and demonstrates a willingness to change his or her practices in light of new understandings	6	.71
*Structure	The school leader supports a school structure that promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions	6	.70
*Intellectual stimulation	The school leader encourages staff to reflect on what they are trying to achieve with students and how they are doing it, facilitates opportunities for staff to learn from each other, and models continual learning in his or her own practice	14	.83
*Individualised support	The school leader provides moral support, shows appreciation for the work of individual staff, and takes staff's opinions into account when making decisions	12	.68
*Performance expectations	The school leader has high expectations for teachers and for students and expects staff to be effective and innovative	3	.67

Table 4.4: Basic information regarding the scales based on teacher responses

Label	Description	Items	Alpha
*Concerns about competencies	Expressed concern at dealing with changing demands	5	.79
Task orientation	Autonomy vs willingness to co-operate	5	.75
*Values	The extent to which teachers agree with teaching approach	8	.76
Support from school leaders and other supervisors	Support received from school leaders to deal with changing demands	12	.88
Policy and evaluation	The extent to which student achievement is monitored	11	.84
Consultation and co-operation among teachers	The extent to which school staff adjust work activities through mutual consultation and the informal exchange of information	16	.86
Consensus	the extent to which teachers have common views on matters like the tasks and function of the school, subject matter goals, teaching, and the teaching content	10	.78
Decision-making	The extent to which individual teachers can decide on their teaching independently, and the extent to which the subject's group or grade as a "collective" plays a role	5	.78
*Changed teaching practices	The extent to which teachers apply new teaching approach	8	.85
Teachers' desire to teach according to traditional methods	The extent to which teachers desire to teach according to traditional methods	3	.61
Learning activities	The extent to which teachers develop themselves	6	.84
Teacher commitment	The extent to which teacher like his or her present school and how much is committed to continue working at the present primary school where is now working	4	.59
*Vision and goals	The school leader works toward whole staff consensus in establishing priorities and communicates these priorities and goals to staff, giving a sense of overall purpose	6	.88

Label	Description	Items	Alpha
*Culture	The school leader promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students, and demonstrates a willingness to change his or her practices in light of new understandings	6	.85
*Structure	The school leader supports a school structure that promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions	6	.86
*Intellectual stimulation	The school leader encourages staff to reflect on what they are trying to achieve with students and how they are doing it, facilitates opportunities for staff to learn from each other, and models continual learning in his or her own practice	14	.91
*Individualised support	The school leader provides moral support, shows appreciation for the work of individual staff, and takes staff's opinions into account when making decisions	12	.84
*Performance expectations	The school leader has high expectations for teachers and for students and expects staff to be effective and innovative	3	.78

Table 4.5 aligns the general expectations, research questions and hypotheses of this study to school leader and teacher questionnaires, and analyses.

Table 4.5: *The alignment of the general expectations, research questions and hypotheses to school leader and teacher questionnaires, and analyses*

Expectations	Research questions	Hypotheses	School leaders questionnaire	Teachers questionnaire	Analyses
1. It is expected that the degree to which school leaders undertake transformational leadership practices (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation) is positively associated with the degree to which their schools change into learning organisations.	<p>1. To what extent do school leaders take on the new responsibilities (school leaders' transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulations, individualized support, performance expectations)?</p> <p>a. To what extent do school leaders (principals and vice-principals) within schools (dis)agree with regard to their self-reports on leadership activities?</p> <p>b. To what extent do teachers within schools</p>		4.1 Leadership practices (vision and goals, culture, structure, intellectual stimulations, individualised support, performance expectations).	<p>2.2 Values (task orientation and values, support from school leaders and other supervisors).</p> <p>Section 3: Professional learning communities (policy and evaluation, consultation and cooperation among teachers, consensus, decision making).</p> <p>5.1: Leadership practices.</p>	<p>Descriptive statistics (means and standard deviations).</p> <p>Intra-class correlations obtained through multilevel analyses.</p> <p>Intra-class correlations obtained through multilevel analyses.</p> <p>Correlations between</p>

	(dis)agree when reporting on the leadership activities of their school leaders? c. To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities in their school?				teacher and school leader scores, and descriptive statistics (frequencies and percentages) on difference between school leader and teacher scores.
2. It is expected that expertise (competencies and training in teaching and in leadership and management) and years of experience in school leadership are related to transformational leadership activities. 3. It is expected that the more school leaders and teachers perceive themselves to be in possession of the necessary leadership and management skills, and the necessary	2. Which factors can account for variation in school leadership activities?	1. The more experienced and expert school leaders are the more they show clear practices associated with transformational leadership (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectation) in their problem solving processes. 2. The more school leaders and teachers feel confident with respect to their competencies associated to curriculum and teaching innovations the more school leaders show transformational leadership	1.2 School level 1.3 City 1.4 Province 1.5 In this function since (year) 1.6 Sex 1.7 Age 1.8 Qualifications 1.9 Specialisation 1.10 Training 1.11 Training topics 1.12 Type of training 1.13 Position before becoming a principal or vice-principal 2.1 School size 2.2 Type of students: Perceived pupils composition	1.2 School level 1.3 City 1.4 Province 1.5 In this function since (year) 1.6 Sex 1.7 Age 1.8 Qualifications 1.9 Specialisation 1.11 How many pupils 1.13 Number of shifts 1.15 Number of schools/jobs of each teacher 1.16 Education/training to deal with new curriculum	Multilevel analyses with six dimensions of school leader transformational practices as dependent variables. School leader reports were based on data aggregated at school level. Variables such as school characteristics (e.g., the school composition), teacher background, and school leader characteristics (e.g., gender, experience, task perceptions, competencies and training) were used as explanatory variables.

<p>centred learner teaching skills the more they will engage in activities aimed at school improvement in teacher professional development and changing teaching practices.</p> <p>4. It is expected that school leader's gender is associated with transformational leadership practices.</p> <p>5. It is expected that school context (e.g. province, urban-rural, pupils background and quality of teachers perceived by school leaders), and teachers' background (e.g. gender, task perceptions, experience, competencies and training in teaching) are associated with transformational leadership practices.</p>		<p>practices and the more teachers develop themselves and change teaching practices.</p> <p>3. The more teachers desire to teach according to traditional methods the less school leaders show transformational leadership practices and the less teachers develop themselves and do not change teaching practices.</p> <p>4. The more schools have pupils from middle class background or from privileged families and good quality of teachers both perceived by school leaders and qualified and experienced teachers the more school leaders show transformational leadership practices.</p>	<p>2.3 Number of teachers</p> <p>2.4 Pupils teacher ratio</p> <p>2.5 Perceived teacher quality</p> <p>2.6 Number of formal leaders</p> <p>3.1 Concerns about competencies</p> <p>3.2 Values (Task orientation, Value)</p> <p>3.3 Support from provincial and district office</p> <p>3.4 Task autonomy</p> <p>3.5 Changed teaching practices</p> <p>3.6 Work pace and workload</p> <p>4.1 Leadership practices.</p>	<p>2.1 Concerns about competencies</p> <p>2.2 Values</p> <p>Section 4: Teachers development activities (changed teaching practices, learning activities, and teacher commitment).</p> <p>5.1: Leadership practices.</p>	
---	--	--	--	---	--

<p>6. It is expected that the degree to which school leaders undertake transformational leadership practices is related to the extent to which school teams develop into professional learning communities and the degree to which their schools and individual teachers learn, as well as the degree to which their performance improves changing teaching practices.</p>	<p>3. To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team?</p> <p>a. To what extent do teachers within schools (dis)agree when reporting their own teaching practices and development activities?</p> <p>b. To what extent do school leaders (dis)agree within schools in their reports on teaching practices?</p> <p>c. To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?</p>		<p>3.5 Changed teaching practices.</p>	<p>2.1 Concerns about competencies 2.2 Values Section 3: Professional learning communities Section 4: Teacher development activities (changed teaching practices, learning activities, and teacher commitment).</p>	<p>Descriptive statistics (means and standard deviations). With respect to teacher individual learning activities and organisational learning the answer was based only on teacher reports.</p> <p>Intra-class correlations obtained through multilevel analyses.</p> <p>Intra-class correlations obtained through multilevel analyses.</p> <p>Correlations between teacher and school leader scores, and descriptive statistics (frequencies and percentages) on difference between school leader and teacher scores.</p>
--	---	--	--	---	--

<p>7. It is expected that individual teacher learning is associated with organisational learning and changing teaching practices.</p>	<p>4. To what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation)?</p>	<p>5. The more school leaders undertake transformational leadership practices the more their teachers adjust work activities through mutual consultation and the informal exchange of information and the more individual teacher and school teams as a “collective” plays a role in decision-making for curriculum and teaching innovations and the more teachers undertake individual teacher learning activities.</p> <p>6. The more school leaders undertake transformational leadership practices the more their teachers undertake individual teacher learning activities and the more their schools learn as a whole and teachers change teaching practices.</p>	<p>3.5 Changed teaching practices. 4.1 Leadership practices.</p>	<p>Section 3: Professional learning communities Section 4: Teacher development activities 5.1: Leadership practices.</p>	<p>Multilevel analyses with six dimensions of school leader transformational practices as independent variables. In each case the analysis will take into account the effects of school characteristics (e.g., the school composition), teacher background, and school leader characteristics (e.g., gender, experience, task perceptions, competencies and training).</p>
---	--	---	--	--	--

4.5 Summary

In this chapter the methodology of the research was presented. Among other aspects the sampling and the development of instruments were discussed in detail. Then the statistical analysis technique used in this study and the results of preliminary analyses to check scale reliability were presented and discussed.

Chapter 5

Results

Introduction

By way of introduction of the contents of this chapter, a brief recapitulation of the aims and core questions of this study, as explained in earlier chapters, is given.

The main goal of the present study was to examine the association between transformational leadership, organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changing teaching practices (curriculum implementation). This study investigated

- (i) to what extent school leaders take on the new responsibilities (school leader transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualised support, and performance expectation);
- (ii) which factors can account for variation in school leadership activities;
- (iii) to what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team;
- (iv) and to what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation).

Although not the main focus of this study, the differences in perception between school leaders (principals and vice-principals) and teachers, both with regard to school leader and teacher activities were also explored.

Research questions

1. To what extent do school leaders take on the new responsibilities (school leader transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation)? To what extent do teachers and school leaders agree or disagree in their ratings of leadership activities at school? (school leaders and vice-principals within schools; teachers within schools, and school leaders and teachers within schools)
2. Which factors can account for variation in school leadership activities? Several variables will be considered to account for the variation in school leader transformational practices (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation), these are: school context (e.g. province, urban/rural, perceived pupil background by school leaders, number of teachers in the school, perceived quality of teachers by school leaders, and number of formal leaders present in the school); school leader characteristics (e.g. specialisation,

experience as principal or vice principal, gender, academic qualification, training topics in Educational Administration and Management, nature/type of training, number of trainings, and position fulfilled before becoming principal or vice-principal); teacher background (e.g. specialisation, experience as teacher, gender, academic qualification, number of shifts in which teachers are teaching, nature/type of education/training to deal with the new curriculum, and number of trainings); and some other relevant teacher characteristics (e.g. concerns about competencies and teachers' desire to teach according to traditional methods).

3. To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team, according to school leaders and teachers? To what extent do teachers and school leaders agree or disagree in their ratings of teaching practices (school leaders and vice-principals within schools; teachers within schools, and school leaders and teachers within schools).
4. To what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation)? Like most other research questions, answering this question requires a number of multilevel analyses. In each case the analysis will take into account the effects of school characteristics (e.g., the school's composition), teacher background, and school leader characteristics (e.g., gender, task perceptions, experience, competencies and training in teaching and in leadership and management).

Based on the central research questions and on the hypotheses of this study the present chapter will provide the analysis of the data and its results.

In Section 5.1, the results (descriptive statistics) of the analyses of the responses of teachers and school leader reports on the extent to which school leaders undertake school leader transformational practices are presented. School leader and teacher responses relate to questions that asked about the degree to which they agree with positive formulations of aspects of transformational leadership. This section also presents the results related to concerns about competencies and value on educational changes, in which school leader and teacher responses relate to questions about the extent to which they agree with negative formulations of aspects of concerns about competencies, and with positive formulations of aspects of value. Agreement within schools among school leaders, among teachers and between school leaders and teachers on school leader transformational practices, educational changes and other variables are also presented in this section (5.1). In most cases data from two leaders (principal and vice-principal) per school were collected. In this study the amount of agreement among teachers within schools and among leaders within schools are expressed as intra-class correlations. The agreement between school leaders and teachers was based on the differences in perception between school leaders and teachers within schools, with regard to school leader activities. School leader self-reports and teacher reports concerning school leader behaviour were used. School leader scores were aggregated at the school level. For

each school, an average of school leader responses was calculated, then the difference between these scores and teachers responses was computed. Both correlations between teacher and school leader scores and descriptive statistics on differences between school leader and teacher scores are reported.

In Section 5.2 analyses of the factors which may account for variation in school leadership activities are presented. These analyses relate to the association between school leader transformational practices and a number of explanatory variables grouped into school context, school leader characteristics, teacher background, and other relevant teacher characteristics. School context comprises organisational demographics or composition, school location, and school level (e.g. province, urban/rural, perceived pupils' background by school leaders, number of teachers in the school, perceived quality of teachers by school leaders, and number of formal leaders present in the school). School leader characteristics include specialisation, experience as principal or vice-principal, gender, academic qualification, training topics in Educational Administration and Management, nature/type of training, number of trainings, and position fulfilled before becoming principal or vice-principal. Teacher background comprises specialisation, experience as a teacher, gender, academic qualification, number of shifts in which teachers are teaching, nature/type of education/training to deal with the new curriculum, and number of trainings. Other relevant teacher characteristics include concerns about competencies and teachers' desire to teach according to traditional method. Firstly, in this section the association between school context and school leader transformational practices based on teacher reports (except where indicated) is presented. The association of school context, school leader characteristics, and teacher background with the average of six transformational leadership dimensions (teacher reports) is then described.

In Section 5.3 the findings regarding teacher development activities (changed teaching practices, learning activities, and teacher commitment) and organisational learning (professional learning communities) are presented. The results of the analyses of reports on the extent to which teaching practices have changed and the extent to which teachers undertake development activities and learn as a team, according to school leaders and teachers are reported. Teacher and school leader responses relate to questions that asked about the degree to which they agree with positive formulations of aspects of teaching practices. Teacher responses also related to questions which enquired about the extent to which they agreed with positive formulations of aspects of individual teacher learning activities, teacher commitment and organisational learning. The agreement within schools among teachers, among school leaders and between teachers and school leaders in their ratings of teaching practices is presented in this section. The extent of agreement among teachers within schools on individual teacher learning activities, teacher commitment, and organisational learning is also presented.

In Section 5.4 the results of analyses concerning the relationships between school leader transformational practices and a number of other variables: organisational learning (professional learning communities), individual teacher learning (teacher professional development), and changing teaching practices (curriculum implementation) are presented.

These analyses took into account the “effects” of school characteristics (e.g. the school’s composition), teachers’ background, and school leader characteristics (e.g. gender, task perceptions, competencies and training). Other teacher characteristics (e.g. concerns about competencies and teachers’ desire to teach according to traditional methods) were included for additional analyses because the findings showed that teachers felt comfortable when working according to traditional teaching methods. These teacher characteristics may themselves have had an effect on relationships among school leader transformational practices, organisational learning, individual teacher learning, and changed teaching practices. In these analyses, there was a focus on teacher reports and on differences between teacher reports and school leader reports on school leader transformational practices. In the present study, the teacher responses were considered most relevant, because the dependent variables (e.g. changed teaching practices, individual teacher learning and organisational learning) were related to teacher behaviour. This investigation also took into account in the analyses that differences in perception between teachers and school leaders may itself have had an effect on relevant outcome variables. As indicated in section 5.1, for each school an average of school leader responses was calculated and then the difference between these scores and teachers responses was computed. These differences were used as covariates in analyses with organisational learning, individual teacher learning and changed teaching practices as dependent variables. This study reports descriptive statistics which showed teachers being either more or less positive than school leaders on school leader transformational practices. Frequencies and percentages concerning difference between school leader and teacher scores on six dimensions of school leader transformational practices are reported. Another reason teacher responses were focused upon in these analyses was that only teachers were asked to report on aspects of organisational learning and individual teacher learning activities. Thus, the analyses concerning both organisational learning and individual teacher learning were based on teacher reports. Firstly, the association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning dimensions (teacher reports) as dependent variables are presented. Secondly, the association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning dimensions (teacher reports) as dependent variables, with individual teacher learning (teacher reports) included as an additional covariate are reported. Thirdly, the association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and individual teacher learning (teacher reports), as the dependent variable, is presented. Then organisational learning dimensions (teacher reports) were included as additional covariates. Finally, the association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and changed teaching practices (teacher reports) as the dependent variable is reported. Both individual teacher learning and organisational learning dimensions (teacher reports) were included as additional covariates.

The summary of this chapter is provided in section 5.5.

5.1 School leader transformational practices and educational changes

In Mozambique, school leaders are explicitly assigned tasks aimed at the development of schools as learning organisations and at the development of teachers. It is unknown, however, whether school leaders undertake these new responsibilities. The first question in this dissertation addressed this problem.

- *Question 1:* To what extent do school leaders take on the new responsibilities (school leader transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectations)?

The results concerning this question related to descriptive statistics of scale scores based on Likert-type items with five response categories (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5) and were based on school leader self-reports and teacher reports. The findings on school leader transformational practices comprise six variables (which represent different facets of transformational leadership): “Vision and goals”, “Culture”, “Structure”, “Intellectual stimulation”, “Individualised support”, and “Performance expectations”. Two other variables concerning educational changes are discussed: “Concerns about competencies” (expressed concern at dealing with changing demands), and “Values” (the degree to which principals, vice-principals or teachers agree with a number of teaching approaches) as part of factors which are plausible candidates for explaining variations in leadership.

School leader transformational practices

As mentioned above, the question assessed the extent to which school leaders undertake the new responsibilities (school leader transformational practices). School leader transformational practices were discussed on the basis of six variables: “Vision and goals”, “Culture”, “Structure”, “Intellectual stimulation”, “Individualized support”, and “Performance expectations”. The results showed that school leaders reported more transformational practices than teachers, and that there was more variation in teacher responses than in school leader responses. When reporting on the leadership activities of their school leaders, teachers agree strongly, particularly with regard to “Vision and goals”, “Culture”, and “Performance expectations” and somewhat less strongly for “Structure”, “Intellectual stimulation”, and “Individualised support”. Tables 5.1 and 5.2 show the means and standard deviations related to leadership practices based on school leader and teacher responses to questions which asked about the extent to which they agree with positive formulations of aspects of transformational leadership (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5). High scores imply higher levels on the six dimensions of transformational leadership.

Table 5.1: *Means and standard deviations related to school leader transformational practices based on school leader responses*

Variable	Mean	Std. deviation
Vision and goals	4.66	.53
Culture	4.61	.44
Structure	4.56	.48
Intellectual stimulation	4.35	.53
Individualised support	4.48	.43
Performance expectations	4.49	.62

Table 5.2: *Means and standard deviation related to school leader transformational practices based on teacher responses*

Variable	Mean	Std. deviation
Vision and goals	4.13	.87
Culture	4.13	.87
Structure	3.95	.89
Intellectual stimulation	3.90	.83
Individualised support	3.92	.72
Performance expectations	4.07	.90

Vision and goals

This variable measures the extent to which the school leader works toward whole staff consensus in establishing priorities and communicates these priorities and goals to staff giving a sense of overall purpose. The data showed that school leaders (mean 4.66) and teachers (mean 4.13) generally reported that the practices were in line with vision and goals aspects of transformational leadership. The school leader responses were more homogeneous (std. deviation .53) than the teacher responses (std. deviation .87). According to school leader and teacher responses, it was reported that school leaders worked toward whole staff consensus in establishing priorities and communicate these priorities and goals to staff. They gave staff a sense of overall purpose; they clarified the specific meaning of the school mission in terms of its practical implications for programs and instruction; they communicated the school mission to staff; they encouraged the development of school culture supporting openness to change as well as helping the staff to understand the relationship between their school's mission and the subject area and cycle initiatives and policies.

Culture

This variable assesses the extent to which the school leader promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students and demonstrates a willingness to change his or her practices in the light of new understandings. Regarding "Culture" the findings showed that school leaders (mean 4.61) as well as teachers (mean 4.13)

reported that leadership practices supported an atmosphere of trust among each other. There was more variation in teacher responses (std. deviation .87) than in school leader responses (std. deviation .44). The school leader and teacher responses showed that school leaders promoted an atmosphere of caring and trust among staff, set a respectful tone for interaction with students, and demonstrated a willingness to change their practices in light of new understandings.

Structure

This variable refers to the extent to which the school leader establishes a school structure which promotes participative decision-making, supports delegation and distributive leadership and encourages teacher autonomy for making decisions. The results concerning “Structure” revealed that school leaders reported a high degree of structure (mean 4.56) and the variation in their responses was low (std. deviation .48). Teacher responses were less positive (mean 3.95) with high variation (.89). These results showed that school leaders supported a school structure which promoted participative decision-making, delegating and distributing leadership to encourage teacher autonomy for making decisions.

Intellectual stimulation

This variable measures the extent to which the school leader encourages staff to reflect on what they are trying to achieve with students and how they are doing it, facilitates opportunities for staff to learn from each other and models continual learning in their own practice. The findings illustrate that regarding “Intellectual stimulation” school leaders reported a higher level of intellectual stimulation (mean 4.35) than teachers, whose responses were from neutral to agree (mean 3.90). Nevertheless, it appeared that school leaders encouraged staff to reflect on what they were trying to achieve with students and how they were doing it; it appeared that they facilitated opportunities for staff to learn from each other and modelled continual learning in their own practice. The variation of the responses was larger for teachers (std. deviation .83) than for school leaders (std. deviation .53).

Individualised support

This variable refers to the extent to which the school leader provides moral support, shows appreciation for the work of individual staff and takes their opinion into account when making decisions. Concerning “Individualised support” the results showed that school leaders reported a higher level in their responses (mean 4.48) than teachers (mean 3.92). The teacher responses were less homogeneous (std. deviation .72) than the school leader responses (std. deviation .43). The analysis of the data indicated that participating school leaders provided moral support, showed appreciation for the work of individual staff and took the opinions of staff into account when making decisions in dealing with the new curriculum and student centred teaching approach.

Performance expectations

This variable measures the extent to which the principal has high expectations of teachers and students and expects staff to be effective and innovative. The data showed that school leaders (mean 4.49), and teachers (mean 4.07) reported high performance expectations. There is more

variation in teachers' responses (std. deviation .90) than in school leader responses (std. deviation .62). Results indicated that school leaders had high expectations of teachers and of students and expected staff to be effective and innovative.

Summarising, in general, the responses to the various facets of transformational leadership were positive (from agree to strongly agree) for both school leaders and teachers. It may be concluded that, in general, school leaders and teachers agreed to undertake the actions expected of them, given the reform policy.

Educational changes

The findings concerning educational changes are discussed on the basis of two variables "Concerns about competencies" and "Values". Tables 5.3 and 5.4 provide the means and standard deviations related to educational changes based on school leader and teacher responses to questions regarding the extent to which they agree with negative formulations of concerns about competencies, and to questions regarding the extent to which they agree with positive formulations of aspects of values (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5). High scores imply higher level of agreement.

Table 5.3: *Means and standard deviations related to educational changes ("concerns about competencies" and "values") based on school leader responses*

Variable	Mean	Std. deviation
Concerns about competencies	1.64	.83
Values	4.31	.52

Table 5.4: *Means and standard deviations related to educational changes ("concerns about competencies" and "values") based on teacher responses*

Variable	Mean	Std. deviation
Concerns about competencies	1.97	.97
Values	3.79	.77

Concerns about competencies

This variable refers to the expressed concern at dealing with changing demands. The items in the scale regarding "Concerns about competencies" were negatively phrased items (e.g. "Because of all the changes in the field of curriculum and teaching at the time I don't know where I am as a principal or vice-principal"; "Because of all the educational developments in the field of curriculum and teaching I no longer know what teaching should be about".) Thus, when the scores of respondents were low, this indicated a disagreement with the item and therefore were positive responses. The results showed that school leaders and teachers were positive. School leaders were more positive (mean 1.64) than teachers (mean 1.97). There was

more variation in teacher responses (std. deviation .97) than in school leader responses (std. deviation .83). These results indicated that school leaders as well as teachers felt comfortable dealing with educational changes in the field of curriculum and teaching. It does not appear that the curriculum and teaching innovations made them feel as if they were losing control of their profession as school leaders or as teachers. These findings suggest that they are confident as school leaders or teachers and they do not have doubts their capacity to practice their profession.

Values

This variable measures the extent to which school leaders and teachers agree to the values in the Mozambique school reform and the extent to which school leaders and teachers agree with a number of teaching approaches. Regarding “Values” (see Tables 5.3 and 5.4) the data showed that school leaders again agreed (mean 4.31) more highly than teachers (mean 3.79) and that there was more variation in teacher responses (std. deviation .77) than in school leader responses (std. deviation .52). From this perspective, results indicated that among school leaders and teachers there was agreement with regard to the new, learner-centred, teaching approach. One exception was found in the item “I agree with the approach of instruction that is less whole-class oriented”. In this respect the respondents were not positive. The findings illustrate that despite the support for a student-centred teaching approach, the teacher instruction was still whole-class oriented. The mean score was 2.54 for school leaders, and 2.45 for teachers. There was high variation in both school leader (std. deviation 1.49) and teacher responses (std. deviation 1.37). According to MEC (2009) and MEC (2010), the pupil teacher ratio in Primary Education in 2008 was 73 in EP1 and 41 in EP2. In this study, the average pupil-teacher ratio reported by school leaders of EP1 and EP2 was 53.4. It seems evident that the class size in Primary Education in Mozambique is very large, which almost precludes a learner-centred approach.

Conclusion and implications

Although the findings concerning school leader transformational practices and educational changes showed that both school leaders and teachers generally displayed a positive picture, school leaders were more positive than teachers. In addition, there was more variation in teacher responses than in school leader responses. Also the findings regarding “Concerns about competencies” indicated that school leaders as well as teachers felt comfortable dealing with educational changes in the field of curriculum and teaching. Both school leaders and teachers reported that the main aspects of transformational leadership are realised in Mozambique.

Educational reform, decentralisation and school improvement may benefit from transformational leadership which can be described as an approach that supports the development of schools as learning organisations in the way it is expected by the Ministry of Education and other stakeholders expect, in order to improve the quality of education in Mozambique.

5.1.1 Agreement within schools on school leader transformational practices, educational changes and other variables

As mentioned in section 2.5, this study also assessed the differences in perception between school leaders and teachers within schools, with regard to both school leader and teacher activities. In most cases, data from two leaders (principal and vice-principal) per school were collected. School leader self-reports and teacher reports concerning school leader behaviour were used. For each school an average of school leaders responses was calculated, then the difference between these scores and teachers responses was computed. Several items in both school leader and teacher questionnaires relate to the same topics providing information from both perspectives. Given the outcomes of prior research in non-school contexts (e.g. Krishnan, 2003; Atwater & Yammarino, 1992; Yammarino & Atwater, 1997; Atwater & Yammarino, 1997; Sosik and Megerian, 1999, Godshalk & Sosik, 2000, as cited in Krishnan, 2003) which reported substantial differences between leader self-ratings and their subordinates' perceptions of transformational leadership, and research in school contexts (e.g. Toonen & Moolenaar, 2009) which also reported clear differences between principal self-awareness and teacher perceptions of transformational school leadership, the possibility that teacher perceptions may differ from school leader perceptions was taken into account.

In this research the amount of agreement among teachers within schools and among leaders within schools was also addressed. These are expressed as intra-class correlations which is the proportion of variance that is accounted for by the group (school) level. This parameter is called a correlation coefficient because it is equal to the correlation between values of two randomly drawn micro-units in the same, randomly drawn, macro-unit (Snijders & Bosker, 1999, p. 17). "Normally a correlation of .10 is interpreted as "small"; .30 is "medium" and .50 or more is "large" (Cohen, 1969, as cited in Scheerens et al., 2007, p. 60). In this study < .200 is interpreted as "small"; > .200 < .400 is "medium"; and > .400 is "large". In general the size of the intra-class correlations concerning school leader transformational practices, educational changes, and other variables was found to be medium with few cases of small and a few large intra-class correlations.

In this subsection presents the results concerning agreement within schools among school leaders, among teachers, and between school leaders and teachers on school leader transformational practices, concerns about competencies, values, and other variables were presented.

5.1.1.1 Agreement among school leaders within schools

- *Question 1a:* "To what extent do school leaders within schools (dis)agree with regard to their self-reports on leadership activities?"

School leader agreement within schools on the six dimensions of school leader transformational practices

Table 5.5 shows the school leader intra-class correlations on school leader transformational practices. The intra-class correlations were obtained through multilevel analyses. In this case, the number of respondents within schools on average was about 2.

Table 5.5: *School leader intra-class correlation on school leader transformational practices*

Variable	School leader variance	Sig	School variance	sig	Intra-class correlation
Vision and goals	.203	.000	.077	.019	.274
Culture	.129	.000	.064	.003	.331
Structure	.162	.000	.070	.009	.303
Intellectual stimulation	.190	.000	.090	.008	.321
Individualized support	.133	.000	.050	.015	.274
Performance expectations	.282	.000	.098	.022	.258

The analyses found that the school leader intra-class correlation on school leader transformational practices for all variables was medium ($> .200 < .400$) which indicates moderate agreement among school leaders within schools on transformational leadership practices.

School leader agreement within schools on “concerns about competencies” and “values”

Table 5.6 shows the school leader intra-class correlations on “concerns about competencies” and “values”.

Table 5.6: *School leader intra-class correlation on “concerns about competencies” and “values”*

Variable	School leader variance	Sig	School variance	sig	Intra-class correlation
Concerns about competencies	.525	.000	.160	.000	.233
Values	.184	.000	.085	.008	.316

The findings showed that for both “Concerns about competencies” (.233) and “Values” (.316) the intra-class correlation was medium. There was moderate agreement among school leaders within schools when reporting on both concerns about competencies and values.

School leader agreement within schools on support from provincial and district office, task autonomy, work pace and workload, educational task orientation, and administrative task orientation

Table 5.7 illustrates the school leader intra-class correlations on support from provincial and district office, task autonomy, work pace and workload, educational task orientation, and

administrative task orientation. These intra-class correlations were based on responses to questions that asked about the extent to which they agree with positive formulations of aspects of relationship with the provincial and district office, task autonomy, and work pace and workload (strongly disagree – disagree – in between – agree – strongly agree; scores may range from 1 to 5). These intra-class correlations were also based on responses to questions about the importance of aspects of educational task orientation, and administrative task orientation (not important – little importance – in between – important – very important; scores range from 1 to 5).

Table 5.7: *School leader intra-class correlation on support from provincial and district office, task autonomy, work pace and workload, educational task orientation, and administrative task orientation*

Variable	School leader variance	Sig	School variance	sig	Intra-class correlation
Support from provincial and district office	.330	.000	.049	.312	.129
Task autonomy	.511	.000	.376	.003	.424
Work pace and workload	.432	.000	.178	.016	.292
Educational task orientation	.132	.000	.112	.000	.460
Administrative task orientation	.437	.000	.269	.002	.381

The results show that the intra-class correlation was large for “Task autonomy” (.424) and “Educational task orientation” (.460). It was medium for “Work pace and workload” (.292) and “Administrative task orientation” (.381). The intra-class correlation for “Support from province and district office was weak (.129). The findings show high agreement among school leaders within schools on task autonomy and educational task orientation. There was moderate agreement on work pace and workload and administrative task orientation. The results showed low agreement among school leaders within schools when reporting on support from province and district office.

5.1.1.2 Agreement among teachers within schools

- *Question 1b:* “To what extent do teachers within schools (dis)agree when reporting on the leadership activities of their school leaders?”

Teacher agreement within schools on the six dimensions of school leader transformational practices

Table 5.8 shows the teacher intra-class correlation on school leader transformational practices.

Table 5.8: *Teacher intra-class correlation on school leader transformational practices*

Variable	Teacher variance	Sig	School variance	sig	Intra-class correlation
Vision and goals	.542	.000	.213	.000	.282
Culture	.568	.000	.187	.000	.247
Structure	.584	.000	.222	.000	.276
Intellectual stimulation	.442	.000	.250	.000	.361
Individualised support	.383	.000	.143	.000	.272
Performance expectations	.569	.000	.250	.000	.305

The findings showed that the teachers' intra-class correlation on school leader transformational practices was medium for all variables ($> .200 < .400$). There was moderate agreement among teachers within schools when reporting on the transformational leadership activities of their school leaders.

Teacher agreement within schools on “concerns about competencies” and “values”

Table 5.9 shows the teacher intra-class correlation on “concerns about competencies” and “values”.

Table 5.9: *Teacher intra-class correlation on concerns about competencies and values*

Variable	Teacher variance	Sig	School variance	sig	Intra-class correlation
Concerns about competencies	.793	.000	.158	.001	.166
Values	.411	.000	.192	.000	.318

The intra-class correlation was small for “Concerns about competencies” (.166) and medium for “Values” (.318). The results showed low agreement among teachers within schools on concerns about competencies, and moderate agreement among teachers within schools when reporting on values.

Teacher agreement within schools on support from school leaders and other supervisors, and task orientation

Table 5.10 illustrates the teacher intra-class correlation on support from school leaders and other supervisors and task orientation. These intra-class correlations were based on responses to questions that asked about the extent to which they agree with positive formulations of aspects of support from school leaders and other supervisors and task orientation (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5).

Table 5.10: *Teacher intra-class correlation on support from school leaders and other supervisors, and task orientation*

Variable	Teacher variance	Sig	School variance	Sig	Intra-class correlation
Support from school leaders and other supervisors	.518	.000	.196	.000	.275
Task orientation	.435	.000	.171	.000	.282

For both “Support from school leaders and other supervisors” (.275) and “Task orientation” (.282) the intra-class correlation was medium. The findings showed moderate agreement among teachers within schools on support from school leaders and other supervisors and on task orientation.

5.1.1.3 Agreement between school leaders and teachers within schools

- *Question 1c:* “To what extent do school leaders and teachers within schools (dis)agree when reporting on leadership activities of their school?”

The main goal of this question was to establish the extent to which school leaders and teachers (dis)agree on the six dimensions of school leader transformational practices. The results regarding (dis)agreement on “Concerns about competencies” and “Values” were also analysed. Both correlations between teacher and school leader scores and descriptive statistics on difference between school leader and teacher scores are reported. The correlations relate to mean school leader scores with mean teacher scores. The same applies to the differences between teachers and school leaders.

School leader and teacher agreement within schools on the six dimensions of school leader transformational practices

Correspondence between teacher and school leader ratings of six dimensions of school leader transformational practices (correlations between teacher and school leader scores)

Table 5.11 shows the correlations between teacher and school leader scores within schools related to six dimensions of school leader transformational practices.

Table 5.11: *Correlations between teacher and school leader scores within schools concerning the six dimensions of school leaders’ transformational practices*

Variable	Pearson Correlation*
Vision and goals	-.035
Culture	-.080
Structure	.018
Intellectual stimulation	.026
Individualized support	.009
Performance expectation	.094

* Correlation is significant at the 0.05 level (2-tailed)

The results showed that there are only very small correlations between school leader responses and teacher responses concerning the six dimensions of school leader transformational practices “Vision and goals”, “Culture”, “Structure”, “Intellectual stimulation”, “Individualised support” and “Performance expectation”. In all cases the Pearson correlation was very small (sometimes positive and sometimes negative) and none of the correlations reached the 0.05 level of statistical significance. Some agreement among school leaders and among teachers was indicated but there was virtually no agreement between school leader and teacher responses. From these findings, it appears that when school leader responses were positive, the chances that teachers in their school agreed were basically the same. The largest correlation related to “Performance expectation” (Pearson correlation .094) and “Culture” (Pearson correlation -.080). School leaders within schools gave similar responses regarding the leadership practices in their school. The same applied to teachers. But teachers and school leaders did not agree.

Descriptive statistics on difference between school leader and teacher scores on six dimensions of school leader transformational practices

Table 5.12 shows the frequencies and percentages concerning difference between school leader and teacher scores on the six dimensions of school leader transformational practices.

Table 5.12: *Frequencies and percentages concerning difference between school leader and teacher scores on the six dimensions of school leader transformational practices*

Variable	< 0 (teachers more agree)		0 (teachers and leaders agree)		Sub-total (teachers more agree or in agreement with leaders)		> 0 (teachers less agree)	
	n	%	n	%	n	%	n	%
	Vision and goals	146	28.2	66	12.7	212	40.9	306
Culture	156	30.1	51	9.8	207	40.0	311	60.0
Structure	133	25.7	38	7.3	171	33.0	347	67.0
Intellectual stimulation	171	33.0	15	2.9	186	35.9	332	64.1
Individualised support	121	23.4	23	4.4	144	27.8	374	72.2
Performance expectation	151	29.2	66	12.7	217	41.9	301	58.1

The findings confirmed that teachers reported less transformational practices than school leaders on all six dimensions. With regard to “Intellectual stimulation” teachers most often agree more than school leaders. Nevertheless only 33.0% of all teachers agree more than school leaders. In “Individualised support”, school leaders agreed much more than teachers (72.2% of all teachers agreed less than school leaders).

School leaders and teacher agreement within schools on concerns about competencies, and values

Correspondence between teacher and school leader ratings of concerns about competencies, and values (correlations between teacher and school leader scores)

Table 5.13 illustrates the correlations between teacher and school leader scores regarding concerns about competencies and values.

Table 5.13: *Correlations between teacher and school leader scores regarding concerns about competencies and values*

Variable	Pearson Correlation
Concerns about competencies	.068
Values	.043

These findings also suggest that there was no correlation between school leader scores and teacher scores on “Concerns about competencies” and “Values”. As on the six dimensions of school leader transformational practices in both cases (concerns on the one hand and values on the other) the Pearson correlation was very small and statistically non-significant.

Descriptive statistics on differences between school leader and teacher scores on concerns about competencies, and values

Table 5.14 shows the frequencies and percentages concerning difference between school leader and teacher scores on concerns about competencies and values.

Table 5.14: *Frequencies and percentages concerning difference between school leader and teacher scores on concerns about competencies and values*

	< 0 (teachers more agree)		0 (teachers and leaders agree)		Sub-total (teachers more agree or in agreement with leaders)		> 0 (teachers less agree)	
	n	%	n	%	n	%	n	%
Concerns about competencies	284	54.8	55	10.6	339	65.4	179	34.6
Values	153	29.5	11	2.1	164	31.7	354	68.3

The results illustrated that for “Values” teachers (68.3% of all teachers) agree less than school leaders. School leaders agreed to the reform related to teaching approach more strongly than teachers. With regard to “Concerns about competencies” the responses indicated more

concerns among teachers than among school leaders (54.8% of the teachers reporting more concern than school leaders).

Reliability analysis for scales of six dimensions on school leader transformational practices

Additional analysis of the data revealed strong correlations between the scores on the six scales that related to the six dimensions of transformational leadership, with regard to school leader responses, teacher responses and disagreements between school leaders and teachers. The correlations are reported in Tables 5.15; 5.16; and 5.17. It was decided to construct a new variable that captured the mean score on these scales both for the school leader and the teacher reports. In addition it was decided to construct a variable expressing the teacher – school leader disagreement. Thus the correlation between teacher – school leader disagreement and lack of changed teaching practices could be assessed.

Correspondence between six leadership dimensions (correlation between six leadership dimensions - school leader reports, teacher reports, and difference leader teacher reports)

Concerning difference leader teacher reports, as indicated in subsection 5.1.1, for each school an average of school leaders responses was calculated, then the difference between these scores and teachers responses was computed.

Table 5.15: *Correlation between six leadership dimensions (school leader reports)*

	Vision and goals	Culture	Structure	Intellectual Stimulation	Individualised support
Culture	.692				
Structure	.674	.669			
Intellectual stimulation	.702	.694	.591		
Individualised support	.462	.458	.512	.401	
Performance expectation	.440	.494	.397	.584	.246

All correlations are significant at the 0.01 level (2-tailed)

Table 5.16: *Correlation between six leadership dimensions (teacher reports)*

	Vision and goals	Culture	Structure	Intellectual Stimulation	Individualised support
Culture	.720				
Structure	.701	.736			
Intellectual stimulation	.731	.715	.787		
Individualised support	.641	.640	.737	.806	
Performance expectation	.552	.557	.617	.655	.647

All correlations are significant at the 0.01 level (2-tailed)

Table 5.17: *Correlation between six leadership dimensions (difference leader teacher reports)*

	Vision and goals	Culture	Structure	Intellectual Stimulation	Individualised support
Culture	.714				
Structure	.671	.721			
Intellectual stimulation	.717	.698	.732		
Individualised support	.598	.615	.695	.707	
Performance expectation	.493	.521	.544	.635	.567

All correlations are significant at the 0.01 level (2-tailed)

Reliability analysis on six dimensions on school leader transformational practices for scales of three variables

The outcomes of a reliability analysis on the six dimensions/variables on school leader transformational practices (vision and goals, culture, structure, intellectual stimulation, individualised support and performance expectation) were used to construct the scales of three variables. The average of six transformational leadership dimensions was calculated. The six dimensions were measured from both the teacher and school leader perspective. Table 5.18 reports the reliability for each scale, the number of items on which they are based and their intra-class correlation.

Table 5.18: *Basic information regarding the scales based on school leader reports, teacher reports and differences leader teacher reports*

Label	Description	Items	Alpha	ICC
Average over six leadership dimensions (school leader reports)	Overall measure of six dimensions on school leader transformational practices based on school leader self-reports	6	.87	.404
Average over six leadership dimensions (teacher reports)	Overall measure six dimensions on school leader transformational practices based on teachers reports	6	.93	.363
Average over six leadership dimensions (differences leaders teachers)	Overall measure six dimensions on school leader transformational practices based on the difference between school leader and teacher reports	6	.91	.464

The intra-class correlation (ICC) on average over six leadership dimensions was large for school leaders (.404) and for differences between leaders and teachers (.464). It was medium for teachers (.363).

5.1.1.4 Conclusion and implications of this study

The amount of agreement among teachers within schools and among leaders within schools on school leader transformational practices, educational changes and other variables was addressed. These were expressed as intra-class correlations. In general the size of these intra-class correlations can be described as medium with few cases each of small and large intra-class correlations. The agreement between school leaders and teachers was based on the difference between school leaders (principals and vice-principals) and teachers concerning school leader transformational practices, and educational changes.

The aforementioned conclusions reinforce the idea that there are differences between school leader self-perceptions and teacher perceptions concerning school leader transformational practices. Also “Values” show differences between school leader and teacher responses. School leaders were largely more positive than teachers, which means that their support for the different dimensions of transformational leadership and values was stronger than teachers. Thus this study made use of school leader self-reports but made more use of teacher reports on their school leader behaviour. In the present study, the teacher responses were considered more relevant because the dependent variables (e.g. changed teaching practices, individual teacher learning, and organisational learning) were related to teacher behaviour. This study also took into account in the analysis that differences in perception between teachers and school leaders may have an effect on relevant outcome variables. In several of the analyses presented, variables denoting differences between teachers and school leaders served as covariates and were named difference in perception between school leaders and teachers on school leader transformational practices.

5.2 Variation in school leadership

- *Question 2:* Which factors can account for variation in school leadership activities? To answer this question, multilevel analyses with the six dimensions of transformational leadership (vision and goals, culture, structure, intellectual stimulation, individualised support and performance expectation) as dependent variables were conducted. The independent variables were: school context (e.g. province, urban/rural, perceived pupils’ background by school leaders, number of teachers in the school, perceived quality of teachers by school leaders, and number of formal leaders present in the school); school leader characteristics (e.g. specialisation, experience as principal or vice principal, gender, academic qualification, training topics in Educational Administration and Management, nature/type of training, number of trainings, and position fulfilled before becoming principal or vice-principal); teacher background (e.g. specialisation, experience as teacher, gender, academic qualification, number of shifts in which teachers are teaching, nature/type of education/training to deal with the new curriculum, and number of trainings); and some other relevant teacher characteristics (e.g. concerns about competencies and teachers’ desire to teach according to traditional methods). The analyses were based on teacher reports and on differences between teacher and school leader reports. School leader reports were based on data aggregated at the school level.

Explanatory variables

The explanatory variables are grouped into school context, school leader characteristics, teacher background and other relevant teacher characteristics.

School context

School context relates to organisational demographics or composition, school location, and school level.

1. Province – province of the school.
2. Urban/rural – school location (urban or rural area; rural refers to the districts).
3. School level – level of the school (EP1 or EP2; EP1 + EP2): EP1 - the lower primary which consists of five years of schooling (Grades 1 to 5); EP2 - upper primary which comprises two years (Grade 6 and 7); and EP1 + EP2 - Complete Primary Schools (EPCs) (schools with both levels EP1 + EP2).
4. Student type – perceived pupil background by school leaders (poor background; middle class background; privileged families).
5. Number of teachers in the school.
6. Ratio pupils teacher - number of pupils per teacher.
7. Quality of teachers – perceived quality of teachers by school leaders (very poor; poor; good; very good).
8. Number of formal leaders – formal leaders in the school (Principal; Vice-Principal; Area Co-ordinator; Cycle Co-ordinator).

School leader characteristics

School leader characteristics refer to school leader background.

1. Specialisation – school leader specialisation: Teacher training (IMAP¹, CFPP², and IAP³), General Education, School management training and others.
2. Experience – number of years as principal or vice-principal.
3. Gender – Gender of the informant (male/female).
4. Qualification – school leader academic qualification: secondary education (IMAP; General Education); Bachelors: 3 years of high education; Licenciatura: 5 years of high education; Master's; PhD.
5. Training in Educational Administration and Management (EAM) (training topics) - Administrative or financial management; Educational leadership.
6. Nature/type of training – Type of training in which the informant has participated: with academic degree; that awards a certificate; upgrading course without certification; workshop or seminar.
7. Number of trainings – number of types of training in which the informant has participated.

¹ IMAP – Primary Teaching Institute, nowadays IFP - Teacher Training Institute - recruit candidates with ten years of schooling for lower as well as for upper primary education (EP1 + EP2)

² CFPP – Primary Education Teacher Training Centres - recruit candidates with seven years of schooling (until 2008) for lower primary education (EP1)

³ IAP – National Institute of Teachers Upgrading - institution which organises and runs distance courses using written materials.

8. Position before principal or vice-principal – previous management position held by principal or vice-principal (e.g. principal, vice-principal, area co-ordinator, cycle co-ordinator and administrative and financial assistant)

Teacher background

Teacher background refers to teacher characteristics.

1. Specialisation – teacher specialisation: Teacher training (IMAP, CFPP, and IAP), General Education, and others.
2. Experience - number of years as teacher.
3. Gender - Gender of the informant (male/female).
4. Qualification - teacher academic qualification: secondary education (IMAP; General Education); Bachelors: 3 years of high education; Licenciatura: 5 years of high education; Master's; PhD.
5. Number of shifts – Number of shifts which teachers currently teach: Shift is a school session in which the pupil should stay in school. Typically, the first-shift school session is from 7:30 a.m. to 12:30 p.m. and the second-shift session is from 1:00 p.m. 5:30 p.m. Third-shift sessions, often in populous urban schools, are 6:30 a.m. – 10:00 a.m., 10:30 a.m. – 1:00 p.m. and 1:00 p.m. – 5:30 p.m. In rural areas many schools are single shift, from 7:30 a.m. to 12:30 p.m., with some afternoon classes, mainly for the older pupils.
6. Education/training to deal with the new curriculum (nature/type of training) - Type of training in which the informant has participated to deal with the new curriculum: with academic degree; that awards a certificate; upgrading course without certification; workshop or seminar.
7. Number of trainings - number of types of training in which the informant has participated.

Other relevant teacher characteristics: efficacy and attitude towards traditional teaching methods

1. Concerns about competencies - expressed concern at dealing with changing demands.
2. Teachers' desire to teach according to traditional methods (based on three questionnaire items: I like to teach according to tried and tested ideas or methods; I feel comfortable when my work goes according to fixed routine; I do not like to deviate from the traditional teaching method).

5.2.1 Association between school context and school leader transformational practices

In the multilevel analyses conducted only a few significant effects (for $\alpha < .05$ in a two-tailed test) of school context on school leader transformational practices were detected. These exceptional significant effects relate mostly to “Maputo Province” which was negatively associated with all six school leader transformational practices or dimensions including on their average (taking Cabo Delgado as the comparison base) and positively with the differences between school leader and teacher reports. In Maputo Province, teachers indicated

less agreement with activities that made up transformational leadership than teachers in other regions. Table 5.19 shows the associations between school context variables and school leader transformational practices (hypothesis 4). See appendix F (Tables 1-6) for more elaborate reports (including sizes of non-significant associations).

Multilevel analyses with school leader transformational practices as dependent variables

Table 5.19: Association of school context and school leader transformational practices (based on teacher reports except when indicated)

	Average over six leadership dimensions (teacher reports)	Average over six leadership dimensions (difference teacher - leaders)	Vision and goals	Culture	Structure	Intellectual stimulation	Individualise support	Performance expectations
Maputo City	-.360		-.404	-.361				-.411
Maputo Province	-.619	.588	-.715	-.662	-.649	-.506	-.465	-.720
Nampula								
Zambezia						.371		
Cabo Delgado								
(province comparison base)								
School level								
Pupils background (school leader perception)		-.337	.232					
Number of teachers existing in the school								
Ratio pupils teacher								
Quality of teachers (school leader perception)	.136		.220					
Number of formal leaders existing in the school								
School location: urban/rural		.384		-.314				
Teacher variance	.339	.339	.542	.568	.584	.442	.384	.568
School variance	.113	.198	.120	.113	.135	.169	.090	.159
Variance explained	15.0%	15.2%	12.3%	9.8%	10.8%	11.7%	9.9%	11.2%

Only effects significant for $\alpha < .05$ (two-tailed) are reported

The findings showed that school characteristics such as “Maputo City” (-.404), “Maputo-Province” (-.715), “Pupils background” (.232), and “Quality of teachers” (.220) are associated with “Vision and goals”. In Maputo City and Maputo Province, teachers reported a lesser degree of transformational leadership concerning the vision and goals dimension than teachers in other provinces. Teachers working in schools in which school leaders had indicated a middleclass background of the school population, rated the activities of their school leaders as more strongly in line with the vision and goals dimension of transformational leadership than teachers from other schools. Also teachers, perceived by school leaders as being of moderate or good quality, reported a higher degree of transformational leadership practices concerning the vision and goals dimension. This also applied to the average over the six transformational leadership dimensions in their schools. Teachers in Maputo City and Maputo Province also indicated less transformational leadership with regard to culture and performance expectations than teachers in other regions. In Zambezia teachers rated the activities of their school leaders as more strongly in line with the intellectual stimulation dimension of transformational leadership than teachers in other provinces. From the analyses based on differences between leader and teacher reports, the association between school context and the average over six leadership dimensions was determined by “Maputo-Province” (.588), “Pupil background” (-.337), and “School location (urban/rural)” (.384). Some effects were quite large taking into account the standard deviations on the dependent variables (see Appendix E, Table 1). These results suggest that teachers in Maputo Province reported less transformational leadership practices for all six dimensions. For instance the effect for “Average over six leadership dimensions” based on teacher reports was -.619 with 15.0% of the variance explained by all context variables. The findings also suggest that in schools with pupils from middle class background the difference between leader and teacher reports was smaller. The effect for “Average over six leadership dimensions” based on differences between leaders and teachers report was -.337 with 15.2% of the variance explained by all context variables. As indicated, in these schools teachers reported a higher degree of transformational leadership with respect to “Vision and goals”. The difference between leader and teacher reports in Maputo Province and in urban schools was greater.

Summarising, it may be concluded that these results partially confirm Hypothesis 4, which stated that the more schools have pupils from middle class background or from privileged families and good quality of teachers (both as perceived by school leaders) the more school leaders show transformational leadership practices. In this study, teachers working in schools in which school leaders indicated middle class background of the school population rated the activities of their school leaders as more strongly in line with the vision and goals dimension of transformational leadership than teachers from other schools. Also teachers, perceived by school leaders as being of moderate or good quality, reported a higher degree of transformational leadership in their schools.

As indicated, in this research the findings showed that in schools with pupils from middle class background, the difference between leader and teacher reports was smaller and the difference between leader and teacher reports in Maputo Province and in urban schools was greater. Although not included in a specific hypothesis, these findings are in line with the general expectation (expectation number 5, see section 3.3) in which it was expected that school context (e.g. province, urban-rural, pupil background and quality of teachers as perceived by school leaders) would have an impact on transformational leadership practices.

5.2.2 Association of school context, school leader characteristics, teacher background with the average over six leadership dimensions (teacher reports)

These analyses referred to the association of school context, school leader characteristics, teacher background with the average over six leadership dimensions based on teacher reports. The six leadership dimensions are the school leader transformational practices. Fig. 5.1 provides a graphical illustration of the statistical model. This is actually a subset of the general model presented in section 3.5.

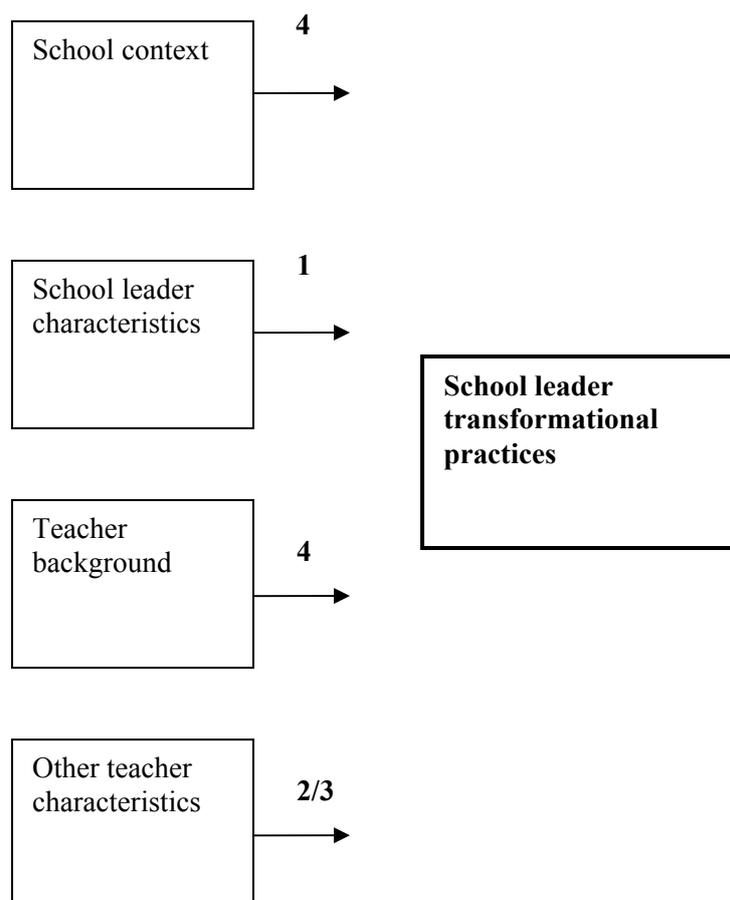


Figure 5.1: Statistical model: association of school context, school leader characteristics, teacher background with the average over six leadership dimensions based on teacher reports. The numbers relate to the hypotheses.

Table 5.20 reports the outcomes of the analyses. Firstly the association of school context and the average over six leadership dimensions is analysed (model 1; Hypothesis 4), then the school leader characteristics (model 2; Hypothesis 1), teacher background (model 3; Hypothesis 4), and finally all explanatory variables were included (model 4). The model explanation is presented in the bottom of the table. See appendix F (Tables 7-11) for more elaborate reports.

Multilevel analyses with average over six leadership dimensions (teacher reports) as dependent variable

Table 5.20: *Association of school context, school leader characteristics, teacher background, and the average over six leadership dimensions (teacher reports) (mean = 4.02; std, deviation .73)*

Variable	1	2	3	4
Maputo City	-.360	xxx	xxx	-.469
Maputo Province	-.619	xxx	xxx	-.686
Nampula		xxx	xxx	
Zambezia		xxx	xxx	
Cabo Delgado*		xxx	xxx	
School level		xxx	xxx	
Pupils background (school leader perception)		xxx	xxx	
Number of teachers existing in the school		xxx	xxx	.007
Ratio pupils teacher		xxx	xxx	
Quality of teachers (school leader perception)	.136	xxx	xxx	.144
Number of formal leaders existing in the school		xxx	xxx	
School leader specialisation: teacher training	xxx		xxx	
School leader specialisation: general education	xxx	-.663	xxx	
School leader specialisation: school management	xxx		xxx	
School leader specialisation: others**	xxx		xxx	
Experience as principal or vice-principal	xxx		xxx	
School leader gender (male)	xxx	-.289	xxx	-.241
School leader's academic qualifications	xxx		xxx	
School leader training in EAM topic – administrative or financial management	xxx		xxx	
School leader training in EAM topic – educational leadership****	xxx		xxx	
Training in EAM with academic degree attended by school leader	xxx		xxx	
Training in EAM that awards a certificate attended by school leader	xxx		xxx	
Upgrading course in EAM without certification attended by school leader	xxx		xxx	
Workshop or seminar in EAM attended by school leader	xxx		xxx	

Variable	1	2	3	4
Number of types of training in EAM attended by school leader	xxx		xxx	
Position before principal or vice-principal	xxx		xxx	
Teacher specialisation: teacher training	xxx	xxx		
Teacher specialisation: general education	xxx	xxx		
Teacher specialisation: others***	xxx	xxx		
Experience as teacher	xxx	xxx		
Teacher gender (male)	xxx	xxx		
Teacher's academic qualifications	xxx	xxx		
Number of shifts in which teachers work	xxx	xxx		
Training with academic degree attended by teacher to deal with the new curriculum	xxx	xxx	-.528	-.465
Training that awards a certificate attended by teacher to deal with the new curriculum	xxx	xxx		
Upgrading course without certification attended by teacher to deal with the new curriculum	xxx	xxx		
Workshop or seminar attended by teacher to deal with the new curriculum	xxx	xxx		
Number of types of training attended by teacher to deal with the new curriculum	xxx	xxx		
Teacher variance	.339	.339	.341	.335
School variance	.113	.167	.122	.061
Variance explained	15.0%	4.9%	13.0%	25.6%

Only effects significant for $\alpha < .05$ (two-tailed) are reported

* Province comparison base

** School leader specialisation comparison base

*** Teacher specialisation comparison base

**** School leader training topic comparison base

Model explanation

1 = analyses based on school context

2 = analyses based on school leader characteristics

3 = analyses based on teachers background

4 = analyses based on school context, school leader characteristics, and teachers background included

xxx = effects not included in the analysis

The results pointed out that in the first model three school context variables namely “Maputo City” (-.360), “Maputo Province (-.619)” and the “Quality of teachers” (.136) seemed to be associated with the average over six dimensions. In the second model, only two school leader characteristic variables seemed to be associated with the average over six dimensions, these were “School leader specialisation: general education” (-.663), and “School leader male” (-.289). This suggests that teachers agreed less when reporting on transformational leadership activities in their schools where school leaders have no training in teaching or school management and where their school leaders are

male. It seems that expert school leaders are more committed to the school leader transformational practices than school leaders without training in teaching or school management. It also seems that female school leaders are more committed to school leader transformational practices than males. Concerning teacher background variables, the findings from model 3 showed that only “Training with academic degree” (-.528) to deal with the new curriculum was negatively associated with the average over six transformational leadership dimensions.

When all explanatory variables were included (model 4), the association of these variables and the average over six transformational dimensions seemed to be determined by four school context variables: “Maputo City” (-.469), “Maputo Province” (-.686), “Number of teachers existing in the school” (.007), and “Quality of teachers” (.144); only one school leader characteristic: “School leader male” (-.241); and only one teacher background variable: “Training with academic degree attended by teacher to deal with the new curriculum” (-.465). The variance explained is 25.6%. Taking into account this variance explained, as well as the standard deviation on the dependent variable, the findings suggest that teachers in Maputo City and Maputo Province less agree when reporting on transformational practices of their leaders. In schools with fewer teachers, school leaders were seen as less committed to the school leader transformational practices. Possibly school leaders are less committed to transformational leadership due to teaching tasks. Teachers perceived by school leaders as being of moderate or good quality indicated agreement when reporting on leadership activities in their schools. Teachers report less transformational practices where their school leaders were male. Teachers who attended training up to an academic degree, in order to deal with the new curriculum, also report less transformational leadership practices of their leaders.

Summarising, these results related to the average over six transformational leadership dimensions. When the analyses were based only on school context and when all explanatory variables were included, teachers perceived by school leaders as being of moderate or good quality reported more transformational leadership practices in their schools. These results are consistent with hypothesis 4, which stated that the more schools have pupils from middle class background or from privileged families and good quality of teachers, both as perceived by school leaders the more school leaders show transformational leadership practices. But the findings did not show a significant association between pupil background and the average over six transformational leadership dimensions. School leader characteristics (e.g. general education; and gender) were associated with school leader transformational practices.

Hypothesis 1 indicated that the more experienced and expert school leaders are, the more they show clear practices associated with transformational leadership in their problem solving processes; the more school leaders are open minded, honest, careful, attentive to group’s needs, and attentive to their thinking. Nevertheless the results

showed no association between school leader experience and transformational leadership practices. In this study, teachers reported less transformational leadership activities at their schools when school leaders had no training in teaching or school management. But when all explanatory variables were included the association between school leader specialisation (general education) and transformational practices disappeared. It may be concluded that the findings of the present study are only partially consistent with Hypothesis 1 (the more expert and experienced school leaders are, the more agreement to transformational leadership).

Teachers also report less school leader transformational practices where their school leaders were male. As indicated, it seemed that female school leaders were more committed to the school leader transformational practices than males. Although not included in specific hypothesis, in general expectation 4 (see section 3.3) it was expected that school leader gender could predict transformational leadership practices.

General expectation 5 indicated that school context (e.g. province, urban-rural, pupil background and quality of teachers perceived by school leaders) has an impact on transformational leadership practices. But it was not expected that in schools with fewer teachers (smaller schools) school leaders could be seen as less committed to the school leader transformational practices than school leaders in larger schools.

General expectation 5 also mentioned that teacher background (e.g. gender, experience, competencies and training in teaching) has an impact on transformational leadership practices. In the present study, teacher gender showed no association with school leader transformational leadership.

Hypothesis 4, related to general expectation 5, included among other aspects, that the more schools have qualified and experienced teachers, the more school leaders show transformational leadership practices. Surprisingly teachers who had attended training up to an academic degree in order to deal with the new curriculum, reported less transformational leadership practices of their leaders. It may be concluded that perhaps the training renders teachers more aware of transformational leadership and raises their expectations. Teacher experience showed no relation with school leader transformational leadership.

5.2.3 Conclusion and implication for this study

Despite the limited number of significant effects reported in the above sections, it may be concluded that controlling for teacher background (e.g. gender, competence and training in teaching, experience as teacher), and school context (e.g. school level, pupils background and quality of teacher perceived by school leader, number of teachers existing in the school) in the multilevel analyses with transformational leadership practices as independent variables is appropriate. Controlling for school leader

characteristics (e.g. gender, competence and training in teaching and in leadership and management, experience as principal or vice-principal), and some other relevant teacher characteristics (e.g. concerns about competencies, teachers' desire to teach according to traditional methods) is also required in order to analyse the relations among transformational leadership, organisational learning, individual teacher learning, and changing teaching practices.

5.3 Teacher development activities (changed teaching practices, learning activities, and teacher commitment) and organisational learning (professional learning communities)

- *Question 3:* To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team?

This question refers to “Teacher development activities” and organisational learning (professional learning communities). Teacher development activities are related to changed teaching practices (the way teachers teach i.e. the extent to which teachers apply new teaching approaches), learning activities (the extent to which teachers undertake development activities), and teacher commitment (the extent to which teachers like their present school and how much they are committed to continue working there). Organisational learning comprises variables related to professional learning communities concepts (policy and evaluation, consultation and co-operation among teachers, decision making and consensus).

The results concerning “Changed teaching practices” and “Teachers’ desire to teach according to traditional methods” based on both teacher and school leader reports are presented and discussed. The findings showed that teachers largely agreed on displaying changed teaching practices. The size of the difference between the mean of the school leader response and the teacher mean was found to be negligible.

With respect to “Learning activities”, “Teacher commitment” and organisational learning, the analyses were based on teacher reports. The findings showed positive responses for all variables.

Changed teaching practices

Tables 5.21 and 5.22 show the means and standard deviations related to changed teaching practices and teachers’ desire to teach according to traditional methods, based on teacher and school leader responses respectively. Teacher and school leader responses relate to questions that asked about the extent to which they agreed with positive formulations of aspects of teaching practices (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5). With regard to teachers’ desire to teach according to traditional methods, findings for each separate item are reported. Teachers and school leader responses also related to one negatively phrased

item “I do not like to deviate from the traditional teaching method” for teachers, and “My teachers do not like to deviate from the traditional teaching method” for school leaders. High score indicate higher levels of agreement.

Table 5.21: *Means and standard deviations related to changed teaching practices and teachers’ desire to teach according to traditional methods based on teacher responses*

Variable	Mean	Std. deviation
Changed teaching practices	3.64	.94
I like to teach according to tried and tested ideas or methods*	3.84	1.22
I feel comfortable when my work goes according to fixed routine*	3.69	1.37
I do not like to deviate from the traditional teaching method*	3.14	1.28

* Teachers’ desire to teach according to traditional methods

Table 5.22: *Means and standard deviations related to changed teaching practices and teachers’ desire to teach according to traditional methods based on school leader responses*

Variable	Mean	Std. deviation
Changed teaching practices	3.62	.75
My teachers like to teach according to tried and tested ideas or methods*	3.94	1.08
My teachers feel comfortable when their work goes according to fixed routine*	3.59	1.42
My teachers do not like to deviate from the traditional teaching method*	3.07	1.36

* Teachers’ desire to teach according to traditional methods

The variable “Changed teaching practices” relates to the extent to which teachers apply new teaching approaches, especially the student centred teaching approach. The results showed that the responses were from neutral to positive. The size of the difference between the mean of the school leader response (3.62) and the teacher mean (3.64) was negligible. The variation was higher in teacher responses (std. deviation .94) than in school leader responses (std. deviation .75). It seems that the participating teachers applied new teaching approaches. As for “Values” (section 5.1.) one exception with regard to “Changed teaching practices” related to “instruction less whole-class oriented”. The respondents did not respond positively to this item. As for “Values”, the findings for “Changed teaching practices” illustrated that the teacher instruction was still whole-class oriented. The response mean was 2.37 for school leaders and 1.99 for teachers. There was high variation in school leader (std. deviation 1.40) and teacher responses (std. deviation 1.22).

Teachers' desire to teach according to traditional methods

Three items were included in both school leader and teacher questionnaires concerning "Teachers' desire to teach according to traditional methods". In the perception of the school leaders (see Table 5.22), this variable was addressed by using the following items: "My teachers like to teach according to tried and tested ideas or methods", "My teachers feel comfortable when their work goes according to fixed routine" and "My teachers do not like to deviate from the traditional teaching". Although these items all seemed to be expressions of the same concept, it was found that the correlations between the item responses were too low to construct a reliable scale ($\text{Alpha} = .41$). The items included in the teacher questionnaire (see Table 5.21) were "I like to teach according to tried and tested ideas or methods", "I feel comfortable when my work goes according to fixed routine" and "I do not like to deviate from the traditional teaching method" ($\text{Alpha} = .61$).

Despite the finding that school leader and teacher responses showed a positive attitude towards a student centred teaching approach the findings also showed that teachers feel comfortable when working according to traditional teaching methods. The responses from school leaders and teachers were from neutral to positive. The differences in average responses between teachers and school leaders were rather small.

Teacher learning activities and teacher commitment

Table 5.23 shows the means and standard deviations concerning learning activities and teacher commitment based on teacher responses to questions that asked about the degree to which they agree with positive formulations of aspects of individual teacher learning activities and teacher commitment (strongly disagree – disagree – in between – agree – strongly agree; scores may range from 1 to 5). High scores indicate higher levels of agreement.

Table 5.23: *Means and standard deviations related to learning activities and teacher commitment*

Variable	Mean	Std. deviation
Learning activities	4.21	.84
Teacher commitment	4.13	.73

Findings illustrate that in both "Learning activities" (mean 4.21) and "Teacher commitment" (mean 4.13), teachers agreed highly when reporting their own learning activities and commitment. This means that teachers indicated that they keep themselves informed on developments within educational science, even if participation is not obligatory, they participate in training programmes and they use the reactions of the pupils to improve their teaching practices. They also indicated that they liked their

present school and that they were highly committed to continue working at their present school.

Organisational learning (professional learning communities)

Correlation among scales on organisational learning (professional learning communities)

Analysis of the data revealed strong correlations between the scores on the four scales that relate to the four dimensions of organisational learning, with regard to teacher responses. The correlations are reported in Table 5.24. It was decided to construct a new variable which captured the mean score on these scales for the teacher reports.

Correspondence between four organisational learning dimensions (correlation between four organisational learning dimensions - teacher reports)

Table 5.24: *Correlation between four organisational learning dimensions (teacher reports)*

	Policy and evaluation	Decision making	Consultation and co-operation
Decision making	.550		
Consultation and co-operation	.675	.641	
Consensus	.567	.617	.640

Correlation is significant at the 0.01 level (2-tailed)

Correlations between several dimensions were calculated. The outcomes of reliability analysis on four dimensions/variables on organisational learning (policy and evaluation, decision making, consultation and co-operation among teachers and consensus) indicated the Cronbach's alpha = .86. The intra-class correlation (ICC) on average over four organisational learning dimensions was medium (.389).

Table 5.25 shows the means and standard deviations for organisational learning (professional learning communities) as a whole (average over four organisational learning dimensions) and for each organisational learning dimension (policy and evaluation, decision-making, consultation and co-operation among teachers and consensus) based on teacher responses to questions that asked about the extent to which they agreed with positive formulations of aspects of organisational learning (strongly disagree – disagree – in between – agree – strongly agree; scores range from 1 to 5). High score indicate high levels of agreement.

Table 5.25: *Means and standard deviations related to organisational learning (OL) as a whole and each OL dimension, based on teacher responses*

Variable	Mean	Std. deviation
Organisational learning*	3.90	.63
Policy and evaluation	4.27	.64
Decision making	3.82	.91
Consultation and cooperation	3.89	.72
Consensus	3.64	.74

*Organisational learning as a whole (average over four organisational learning dimensions)

Results showed that teachers agree when reporting on organisational learning (professional learning communities). It is suggested that teachers adjust work activities through mutual consultation and the informal exchange of information, that teachers learn from each other and that school teams as a “collective” play a role in decision-making for curriculum and teaching innovations. Since this study used teacher self-reports on organisational learning, which can be inflated, the interpretation of these findings should be very cautious. Nevertheless, the consistency of school leader and teacher responses to both positively and negatively phrased items concerning other variables (e.g. teaching practices, concerns about competencies, and values) lends credence to the quality of school leaders and teachers ratings. More details concerning these findings are given in Chapter 6 of this study.

5.3.1 Agreement within schools on teaching practices, individual teacher learning activities, teacher commitment and organisational learning

This section presents the agreement within schools among teachers, among school leaders and between teachers and school leaders in their ratings of teaching practices. This section also presents agreement among teachers within schools on individual teacher learning activities, teacher commitment and organisational learning. The amount of agreement among teachers within schools and among leaders within schools is expressed as intra-class correlations. The agreement between school leaders and teachers was based on the differences in perception between school leaders and teachers within schools, with regard to teaching practices. Teacher self reports and school leader reports concerning teaching practices were used. School leader scores were aggregated at the school level. Both correlations between teacher and school leader scores and descriptive statistics on difference between school leader and teacher scores are reported.

5.3.1.1 Agreement among teachers within schools

- *Question 3a:* To what extent do teachers within schools (dis)agree when reporting their own teaching practices and development activities?

Teacher agreement within schools on changed teaching practices and on teachers' desire to teach according to traditional methods

Table 5.26 illustrates the teacher intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods.

Table 5.26: *Teacher intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods*

Variable	Teacher variance	Sig	School variance	Sig	Intra-class correlation
Changed teaching practices	.526	.000	.370	.000	.413
I like to teach according to tried and tested ideas or methods*	1.316	.000	.179	.005	.120
I feel comfortable when my work goes according to a fixed routine*	1.740	.000	.132	.053	.071
I do not like to deviate from the prescribed working methods, traditional teaching method*	1.510	.000	.128	.052	.078

* Teachers' desire to teach according to traditional methods

The intra-class correlation was high on “Changed teaching practices” (.413). This means that there was a high level of agreement among teachers within schools with regard to the new, learner-centred teaching approach. The intra-class correlations concerning teachers' desire to teach according to traditional methods were small (< .100). The school variances with respect to the items “I feel comfortable when my work goes according to a fixed routine” and “I do not like to deviate from the prescribed working methods, traditional teaching method” were not statistically significant at the .05 level. Table 5.27 shows intra-class correlation on instruction less whole-class oriented based on teacher responses.

Table 5.27: *Teacher intra-class correlation on instruction less whole-class oriented*

Variable	Teacher variance	Sig	School variance	Sig	Intra-class correlation
Instruction less whole-class oriented (Values)	1.601	.000	.285	.001	.151
Instruction less whole-class oriented (Changed teaching practices)	1.166	.000	.330	.000	.221

The intra-class correlation was small (.151) on instruction less whole-class oriented for “Values” which relates to what teachers consider important and was medium (.221) for “Changed teaching practices” which relates to what teachers report doing. It can be concluded that there was low agreement among teachers within schools on instruction less whole-class oriented. As mentioned in section 5.1, teachers did not agree with the approach of instruction that is less whole-class oriented and indicate that their instruction was whole class oriented.

Teacher agreement within schools on teacher learning activities and teacher commitment

Table 5.28 shows the teacher intra-class correlation on learning activities and teacher commitment.

Table 5.28: *Teacher intra-class correlation on learning activities and teacher commitment*

Variable	Teacher variance	Sig	School variance	Sig	Intra-class correlation
Learning activities	.392	.000	.324	.000	.452
Teacher commitment	.423	.000	.106	.000	.201

The intra-class correlation for “Learning activities” was large (.452) and for “Teacher commitment” medium (.201). This indicates that the level of agreement among teachers within schools was high when reporting on their individual teacher learning activities. But there was low agreement among teachers within schools when reporting on their commitment.

Teacher agreement within schools on organisational learning (professional learning communities)

Table 5.29 shows the teacher intra-class correlation on organisational learning (professional learning communities) as a whole and on each organisational learning dimension. The intra-class correlation for all variables was medium ($>.200 < .400$).

Table 5.29: *Teacher intra-class correlation on organisational learning (professional learning communities) as a whole and on each organisational learning dimension*

Variable	Teacher variance	Sig	School variance	Sig	Intra-class correlation
Organisational learning*	.250	.000	.159	.000	.389
Policy and evaluation	.322	.000	.092	.000	.223
Consultation and co-operation among teachers	.351	.000	.169	.000	.326
Consensus	.359	.000	.191	.000	.347
Decision-making	.617	.000	.220	.000	.263

*Organisational learning as a whole

The main goal was to establish the extent to which teachers within schools (dis)agree when reporting their own teaching practices and development activities including team learning. Table 5.29 reported the findings concerning organisational learning which comprised variables related to professional learning communities concepts (policy and evaluation, consultation and co-operation among teachers, decision making and consensus). The results showed a moderate agreement among teachers within schools when reporting on organisational learning activities in their schools.

5.3.1.2 Agreement among school leaders within schools

- *Question 3b:* To what extent do school leaders (dis)agree within schools in their reports on teaching practices?

School leader agreement within schools on changed teaching practices and on teachers' desire to teach according to traditional methods

Table 5.30 reports the school leader intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods. In most cases data from two leaders (principal and vice-principal) per school were collected.

The intra-class correlation was medium for "Changed teaching practices" (.223) and for "My teachers do not like to deviate from the traditional teaching method" (.291). The intra-class correlation was small for "My teachers like to teach according to tried and tested ideas or methods" (.104) and for "My teachers feel comfortable when their work goes according to a fixed routine" (.089). The school variance for these variables lacked statistical significance at the .05 level. These findings showed low agreement among school leaders when reporting on teaching practices of their teachers. Table 5.31 shows the school leader intra-class correlation on instruction less whole-class oriented.

Table 5.30: *School leader intra-class correlation on changed teaching practices and on teachers' desire to teach according to traditional methods*

Variable	School leader variance	Sig	School variance	Sig	Intra-class correlation
Changed teaching practices	.434	.000	.125	.043	.223
My teachers like to teach according to tried and tested ideas or methods*	1.043	.000	.121	.366	.104
My teachers feel comfortable when their work goes according to a fixed routine*	1.838	.000	.181	.421	.089
My teachers do not like to deviate from the traditional teaching method*	1.323	.000	.542	.016	.291

* Teachers' desire to teach according to traditional methods

Table 5.31: *School leader intra-class correlation on instruction less whole-class oriented*

Variable	School leader variance	Sig	School variance	Sig	Intra-class correlation
Instruction less whole-class oriented (Values)	1.329	.000	.944	.001	.415
Instruction less whole-class oriented (Changed teaching practices)	1.348	.000	.636	.009	.321

The results showed that the intra-class correlation was large in “Instruction less whole-class oriented” concerning “Values” (.415) which relate to what school leaders consider important and medium with regard to school leader perception on what teachers actually do “Changed teaching practices” (.321). These findings suggest high agreement among school leaders when reporting on values in the Mozambique reform, especially with regard to instruction less whole-class oriented. The results showed more moderate agreement among school leaders within schools when reporting their perception on how teachers actually teach. As indicated in section 5.1, like teachers school leaders did not agree with the approach of instruction less whole-class oriented and indicated that the instruction of their teachers was whole class oriented.

5.3.1.3 Agreement between school leaders and teachers within schools

- *Question 3c:* To what extent do school leaders and teachers within schools (dis)agree when reporting on teaching practices?

This question aimed to establish the extent to which school leaders and teachers (dis)agree on teaching practices. School leader scores were aggregated at the school level. Both correlations between teacher and school leader scores and descriptive statistics on difference between school leader and teacher scores are reported. The correlations relate to mean school leader scores with teacher scores. The same applied to the differences between teachers and school leaders.

School leaders and teachers agreement on changed teaching practices and on teachers' desire to teach according to traditional methods

Correspondence between teacher and school leader ratings of changed teaching practices and teachers' desire to teach according to traditional methods (correlations between teacher and school leader scores)

Table 5.32 shows the correlations between teacher and school leader scores concerning changed teaching practices and on teachers' desire to teach according to traditional methods.

Table 5.32: *Correlations between teacher and school leader scores concerning changed teaching practices and on teachers' desire to teach according to traditional methods*

Variable	Pearson Correlation
Changed teaching practices	-.023
Instruction less whole-class oriented (Values)	.052
Instruction less whole-class oriented (Changed teaching practices)	.052
Teachers like to teach according to tried and tested ideas or methods*	.055
Teachers feel comfortable when their work goes according to a fixed routine*	.070
Teachers do not like to deviate from the traditional teaching method*	.033

* Teachers' desire to teach according to traditional methods

The largest correlation referred to "Teachers feel comfortable when their work goes according to a fixed routine" but this was still very small (Pearson correlation .070). In general there appeared to be hardly any correlation between teacher and school leader responses. The results show that despite some agreement among school leaders and

among teachers within schools, there were different perceptions between school leaders and teachers working in the same school.

Descriptive statistics on difference between school leader and teacher scores on changed teaching practices and teachers' desire to teach according to traditional methods

Table 5.33 shows the frequencies and percentages concerning difference between school leader and teacher scores on changed teaching practices and on teachers' desire to teach according to traditional methods.

Table 5.33: *Frequencies and percentages concerning difference between school leader and teacher scores on changed teaching practices and on teachers' desire to teach according to traditional methods*

Variable	< 0 (teachers more agree)		0 (teachers and leaders agree)		Sub-total (teachers more agree or in agreement with leaders)		> 0 (teachers less agree)	
	n	%	n	%	n	%	n	%
Changed teaching practices	270	52.1	19	3.7	289	55.8	229	44.2
Instruction less whole-class oriented (Values)	206	39.8	109	21.0	315	60.8	203	39.2
Instruction less whole-class oriented (Changed teaching practices)	159	30.7	101	19.5	260	50.2	258	49.8
Teachers like to teach according to tried and tested ideas or methods*	219	42.3	104	20.1	323	62.4	195	37.6
Teachers feel comfortable when their work goes according to a fixed routine*	232	44.8	98	18.9	330	63.7	188	36.3
Teachers do not like to deviate from the traditional teaching method*	234	45.2	82	15.8	316	61.0	202	39.0

* Teachers' desire to teach according to traditional methods

The results illustrate that for all but one variable teachers agree more than school leaders. Teachers reported a higher degree of “Changed teaching practices” than school leaders when they reported on how their teachers teach. The exception related to “instruction less whole class oriented”. High percentage of agreement was noted for “instruction less whole-class oriented” (21.0% - for values), (19.5% - for changed teaching practices) and “teachers like to teach according to tried and tested ideas or methods” (20.1%). These results were consistent with the findings presented in earlier subsections of section 5.3. There was also consistency on school leader and on teacher responses when reporting on instructional less whole-class oriented both with regard to values and changed teaching practices.

Concerning “instruction less whole class oriented” and “teachers’ desire to teach according to traditional methods” it may be concluded that within schools there was some agreement between school leaders and teachers on these variables. As mentioned in earlier subsections of section 5.3, this means that in Mozambique, despite the fact that school leader and teacher responses showed a positive attitude towards student-centred approach, the results also suggest that the instruction was still whole class oriented and teachers felt comfortable working with traditional teaching methods.

5.3.1.4 Conclusion and implications

The difference between teacher and school leader responses to how teachers actually teach suggests the need for school evaluation and monitoring. Further study should be conducted to understand the factors which determine the teachers’ desire to teach according to traditional methods including instruction whole-class oriented. Further study should include classroom observation.

5.4 Relations between school leader transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development) and changing teaching practices (curriculum implementation)

Question 4: To what extent can transformational leadership account for organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changed teaching practices (curriculum implementation)? This question required a number of multilevel analyses, with organisational learning, individual teacher learning, and changing teaching practices as the dependent variables. In each case the analysis took into account the “effects” of school characteristics (e.g. the school’s composition), teacher background and school leader characteristics (e.g. gender, task perceptions, competencies and training). Other characteristics of teachers (e.g. concerns about competencies and teachers’ desire to teach according to traditional methods) were included for additional analyses because the findings showed that teachers felt comfortable when working according to

traditional teaching methods (section 5.3). These teacher characteristics may in themselves have an effect on relations among school leader transformational practices, organisational learning, individual teacher learning, and changed teaching practices.

In these analyses there was a focus on teacher reports and on differences between teacher and school leader reports on school leader transformational practices. As mentioned in 5.1.1.4, in the present study the teacher responses were considered most relevant, because the dependent variables (e.g. changed teaching practices, individual teacher learning, and organisational learning) were related to teachers behaviour. This study also took into account in the analysis that differences in perception between teacher and school leaders may itself have an effect on relevant outcome variables. As indicated in section 5.1, for each school an average of school leader responses was calculated and then the difference between these scores and teacher responses was calculated. These differences were used as covariates in analyses with organisational learning, individual teacher learning and changed teaching practices as dependent variables. This study reported descriptive statistics showing teachers more or less positive than school leaders on school leader transformational practices. Frequencies and percentages concerning difference between school leader and teacher scores on six dimensions of school leader transformational practices were reported (see subsection 5.1.1.3). Another reason to focus on teacher responses in these analyses was because only teachers were asked to report on aspects of organisational learning and individual teacher learning activities. Thus, the analyses concerning both organisational learning and individual teacher learning were based on teacher reports.

5.4.1 Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning (teacher reports) as dependent variables

Figure 5.2 provides a graphical illustration of the statistical model. Like Figure 5.1, this presents a subset of the general model in section 3.5.

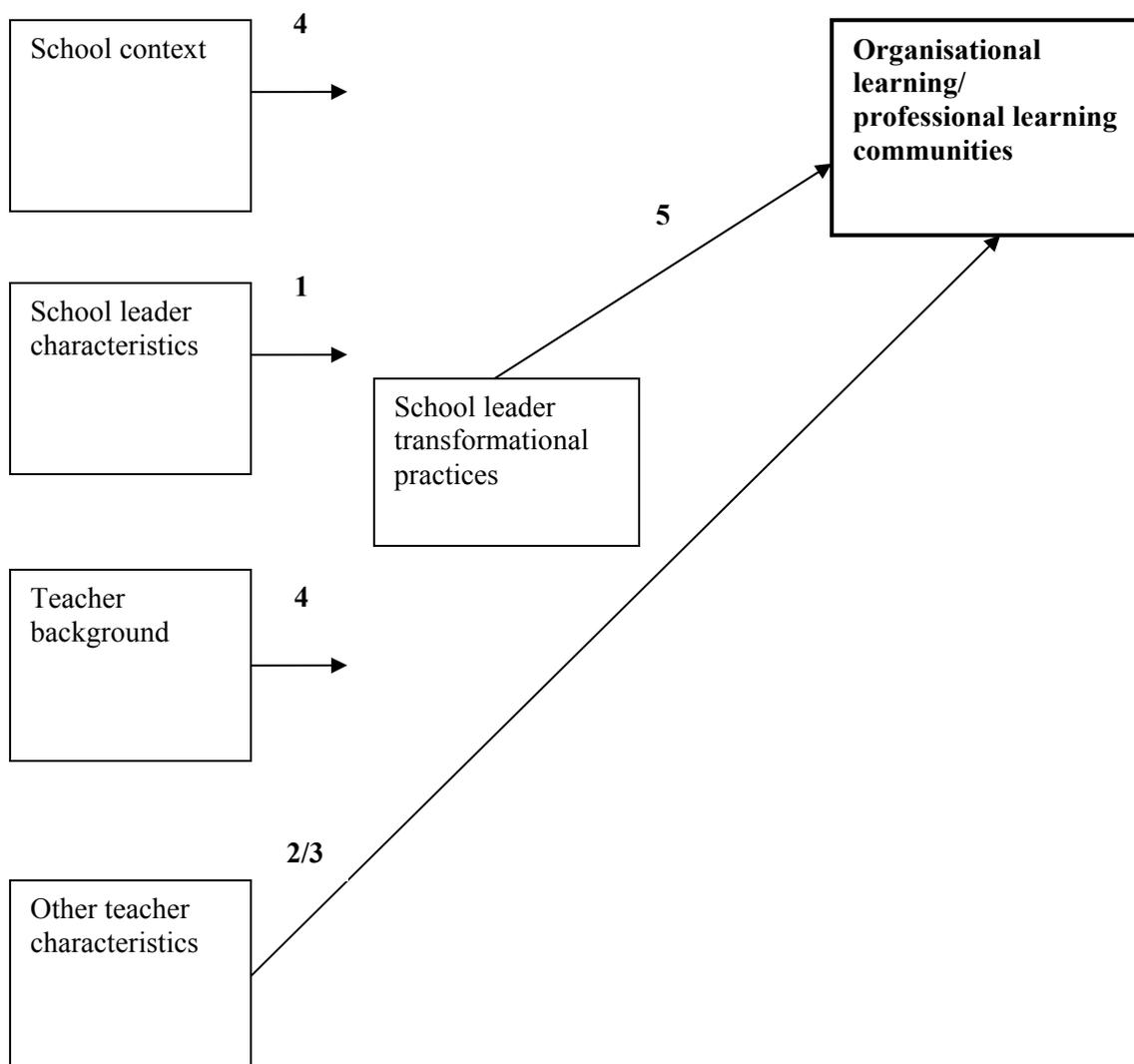


Figure 5.2: Statistical model: Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning variables (teacher reports) as dependent variables, controlling for context and background characteristics; the numbers represent hypotheses

Multilevel analyses with organisational learning as a global concept and organisational learning dimensions as dependent variables

Table 5.34 reports the associations between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning as a whole and organisational learning dimensions (teacher reports) as dependent variables (Hypothesis 5). See appendix G (Tables 1-5) for more elaborate reports (including sizes of non-significant associations).

Table 5.34: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), and organisational learning and each organisational learning dimension (teacher reports) as dependent variables; the cell entries are regression coefficients.

	Organisational learning	Policy and evaluation	Decision making	Consultation and co-operation	Consensus
Maputo City	-.255		-.473		-.278
Maputo Province	-.250		-.550		
Nampula			-.285		
Zambezia			-.279		
Pupils background (school leader perception)					.194
Vision and goals	.121	.169	.126	.144	
Culture					
Structure		.104			
Intellectual stimulation	.171		.233		.267
Individualised support	.136	.167		.130	
Performance expectations	.060			.123	
Difference leaders vs. teachers on transformational leadership					
Teacher gender (male)	-.108	-.132		-.125	-.103
Teacher concerns about competencies*					.053
Teacher likes to teach according to tried and tested ideas or methods*	.070	.086	.066	.066	.061
Teacher feels comfortable when work goes according to fixed routine*					
Teacher does not like to deviate from the traditional teaching method*	.030		.070		
Teacher variance	.146	.217	.495	.247	.260
School variance	.017	.013	.000	.028	.030
Variance explained	60.1%	44.4%	40.9%	47.1%	47.3%

Only effects significant for $\alpha < .05$ (two-tailed) are reported, controlling for context and background characteristics

* Variables included for additional analyses.

Findings indicated that several aspects of school leader transformational practices were associated with aspects of organisational learning. Vision and goals (.121), intellectual stimulation (.171), individualised support (.136), and performance expectation (.060) were associated with organisational learning as a whole. Culture and structure were not related to organisational learning as a whole. However structure (.104), which promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions, seemed to be associated with policy and evaluation (the extent to which student achievement is monitored). Vision and goals, when the school leader works toward whole staff consensus in establishing priorities and communicates these priorities and goals to staff, giving a sense of overall purpose, was significantly associated with policy evaluation (.169), decision making (.126) and consultation and co-operation (.144). Nevertheless, this practice was not related to consensus. Intellectual stimulation, when school leaders encourage staff to reflect on what they are trying to achieve with their students and how they are doing it, when the leaders facilitate opportunities for staff to learn from each other and model continual learning in their own practice, showed a relation with decision-making (.233) and consensus (.267). Individualised support, i.e. school leader provides moral support, shows appreciation for the work of individual staff and takes staff's opinions into account when making decisions, was associated with policy and evaluation (.167) and with consultation and cooperation (.130). Performance expectation, when school leader has high expectations for teachers and for students and expects staff to be effective and innovative, was associated only with consultation and co-operation (.123). The difference between leaders and teachers on transformational leadership used as a covariate was not related to organisational learning. Taking into account the standard deviations on the dependent and independent variables (see Appendix E), findings suggest that there was a substantial relationship between transformational leadership and organisational learning.

Two school context variables were negatively associated with organisational learning as a whole (Maputo City, -.255; and Maputo Province, -.250). With regard to each organisational learning dimension, Maputo City appeared to be negatively associated with decision making (-.473) and consensus (-.278). Maputo-Province (-.550), Nampula (-.285), and Zambezia (-.279) were negatively associated with decision making. It appeared that teachers working in Maputo City and Maputo Province reported less favourably on organisational learning in their schools than teachers from other regions. Pupil background (school leader perception) appeared to be positively associated with consensus (.194). There was more consensus among teachers working in schools with pupils from middle class background than among teachers working in other schools.

Concerning teacher background, the negative associations of gender with organisational learning as a whole (-.108), and with policy and evaluation (-.132), consultation and co-operation among teachers (-.125) and with consensus (-.103) indicated that male teachers were more critical when reporting on organisational learning. With respect to

other teacher characteristics, surprisingly, teachers’ desire to teach with traditional methods (tried and tested methods) showed a modest positive association with organisational learning (.070) and with all four organisational learning aspects or dimensions, namely policy and evaluation (.086), decision making (.066), consultation and co-operation (.066), and consensus (.061).

5.4.2 Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning (teacher reports) as dependent variables, with individual teacher learning (teacher reports) included

In the next step in the analyses of the association of school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and organisational learning (teacher reports) the variable individual teacher “learning activities” (teacher reports) was included. Figure 5.3 provides a graphical illustration of the statistical model. This figure presents a subset of the general model in section 3.5.

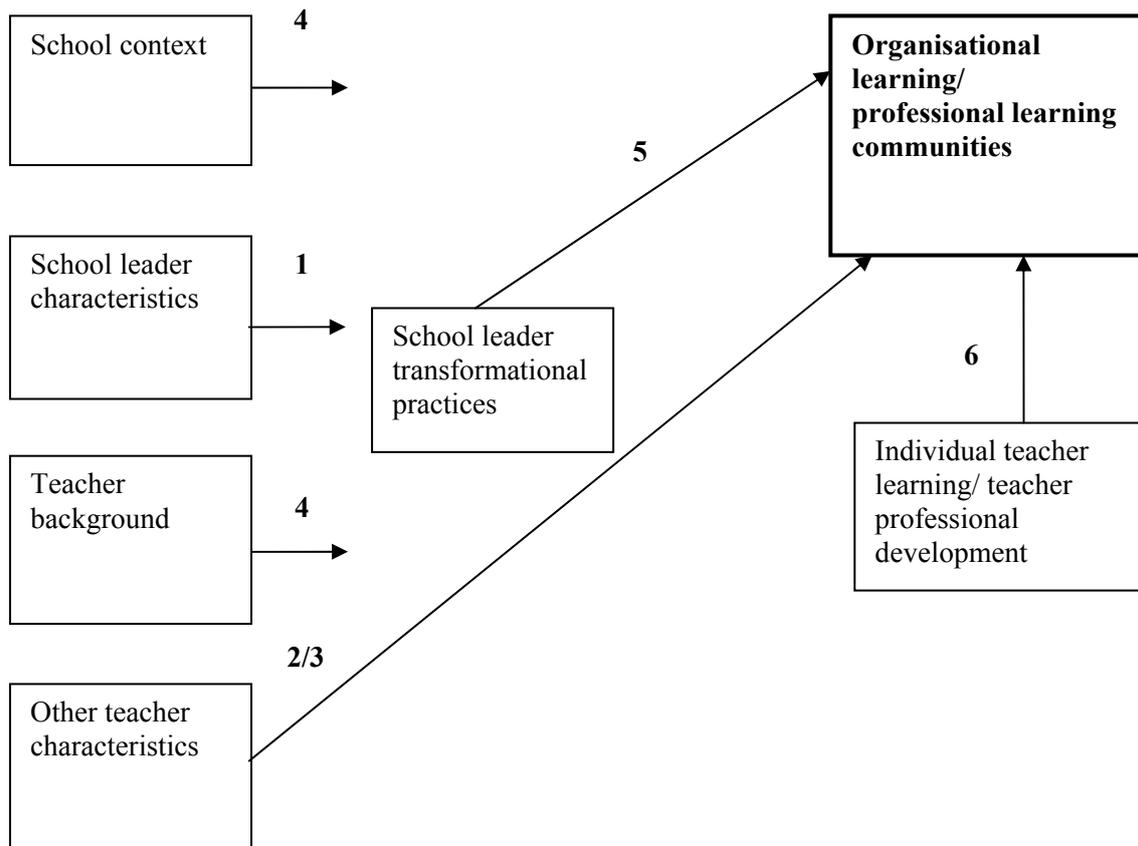


Figure 5.3: Statistical model: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate), individual teacher learning (teacher reports) and organisational learning variables (teacher reports) as dependent variables, controlling for context and background characteristics; the numbers represent hypotheses

Multilevel analyses (individual teacher learning included) with organisational learning variables as dependent variables

Table 5.35 indicates the association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), individual teacher learning activities (teacher reports), and organisational learning as a global concept and each organisational learning dimension (teacher reports) as dependent variables (Hypothesis 5 and subset of Hypothesis 6). See Appendix G (Tables 6-10) for more elaborate reports.

Table 5.35: *Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and individual teacher learning (teacher reports); organisational learning as a whole and each organisational learning dimension (teacher reports) as dependent variables*

	Organisational learning	Policy and evaluation	Decision making	Consultation and co-operation	Consensus
Maputo City	-.250		-.478		-.277
Maputo Province	-.231		-.536		
Nampula			-.285		
Pupils background (school leader perception)					.204
Vision and goals	.080	.118		.104	
Culture					
Structure					
Intellectual stimulation	.146		.206		.245
Individualised support	.126	.151		.124	
Performance expectations				.108	
Difference leaders vs. teachers on transformational leadership					
Individual teacher learning activities	.213	.252	.207	.208	.181
Teacher gender (male)	-.092	-.106		-.107	
Training with academic degree attended by teacher to deal with the new curriculum		.278			
Teacher concerns about competencies*					
Teacher likes to teach according to tried and tested ideas or methods*	.043	.055			

	Organisational learning	Policy and evaluation	Decision making	Consultation and co-operation	Consensus
Teacher feels comfortable when work goes according to fixed routine*					
Teacher does not like to deviate from the traditional teaching method*	.031		.073		
Teacher variance	.138	.209	.483	.241	.253
School variance	.007	.013	.000	.017	.027
Variance explained	64.5%	46.4%	42.3%	50.4%	49.1%

Only effects significant for $\alpha < .05$ (two-tailed) are reported, controlling for context and background characteristics, and individual teacher learning

* Variables included for additional analyses.

When the variable individual teacher “learning activities” was included as an additional covariate in the analyses of association between school leader transformational practices and organisational learning, the findings showed that vision and goals was still associated with organisational learning (.080), policy and evaluation (.118) and consultation and co-operation (.104). But there was no further significant association with decision-making. Intellectual stimulation still affects organisational learning (.146), decision-making (.206), and consensus (.245). Individualised support was associated with organisational learning (.126), policy and evaluation (.151) and consultation and co-operation (.124). Performance expectation was associated significantly only with consultation and co-operation (.108).

The results showed that individual teacher learning was associated with organisational learning as a whole (.213), policy and evaluation (.252), decision making (.207), consultation and cooperation (.208) and consensus (.181). It seemed that the extent to which teachers undertook development activities by keeping themselves informed on developments within educational science, participating in training programs, experimenting with various didactic methods in their lessons, using new knowledge and skills in their lessons, using pupil reactions to improve their teaching practices and by discussing the problems which they experience at work with their colleagues, is related to the organisational learning in schools.

Maputo City was negatively associated with organisational learning as a whole (-.250), decision making (-.478) and consensus (-.277). Maputo Province was negatively associated with organisational learning (-.231) and decision making (-.536). Nampula was negatively associated with decision making (-.285). Pupil background (school leader perception) was also positively associated with consensus (.204).

Gender was also negatively associated with organisational learning (-.092), policy and evaluation (-.106) and consultation and co-operation (-.107) but not with consensus. Teachers who attended training up to an academic degree in order to deal with the new curriculum gave positive responses when reporting on policy and evaluation (.278).

Teachers' desire to teach with traditional methods (tried and tested methods) showed only a small association with organisational learning as a whole (.043) and with policy and evaluation (.055) and teacher not desiring to deviate from the traditional teaching method was positively associated with organisational learning (.031), and decision making (.073).

Summarising, three school leader transformational practices namely vision and goals, intellectual stimulation and individualised support, showed a positive relation with organisational learning. These findings were partially consistent with the Hypothesis 5. This study hypothesised that the more school leaders undertake transformational leadership practices, the more their teachers adjust work activities through mutual consultation and the informal exchange of information and the more individual teachers and school teams as a "collective" play a role in decision-making for curriculum and teaching innovations.

When individual teacher learning was included in the analysis as an additional covariate, it was positively related to organisational learning. This finding was consistent with Hypothesis 6, which stated that the more school leaders undertake transformational leadership practices, the more their teachers undertake individual teacher learning activities and the more their schools learn as a whole.

Teachers from Maputo Province and Maputo City were less positive when reporting on organisational learning in their schools than teachers from other regions. Male teachers were more critical on aspects related to organisational learning. With respect to other teacher characteristics, surprisingly, teachers' desire to teach with traditional methods had a small positive association with organisational learning.

The results showed that pupil background (school leader perception) was positively associated with consensus which is an organisational learning dimension. There was more consensus among teachers working in schools with pupils from middle class background than among teachers working in other schools. Consensus was related to common views on matters such as the tasks and function of the school, subject matter goals, teaching, and the teaching content.

Table 5.34 reports on analyses which focus on the relation between school leader transformational practices and organisational learning. In Table 5.35 the analyses included individual teacher learning activities as a covariate. Table 5.36 showed a

comparison of both analyses with organisational learning (the average across the four dimensions) as the dependent variable.

Multilevel analyses with organisational learning as a whole as dependent variable

Table 5.36: *Association of school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate) and individual teacher learning (teacher reports), and organisational learning as a whole (teacher reports) as dependent variable*

	analyses based only on school leader transformational practices	analyses based on school leader transformational practices and individual teacher learning activities
Maputo City	-.255	-.250
Maput -Province	-.250	-.231
Vision and goals	.121	.080
Culture		
Structure		
Intellectual stimulation	.171	.146
Individualised support	.136	.126
Performance expectations	.060	
Difference leaders vs. teachers on transformational leadership		
Individual teacher learning activities	×××	.213
Teacher gender (male)	-.108	-.092
Teacher concerns about competencies*		
Teacher likes to teach according to tried and tested ideas or methods*	.070	.043
Teacher feels comfortable when work goes according to fixed routine*		
Teacher does not like deviate from the traditional teaching method*	.030	.031
Teacher variance	.146	.138
School variance	.017	.007
Variance explained	60.1%	64.5%

Only effects significant for $\alpha < .05$ (two-tailed) are reported, controlling for context and background characteristics, and for individual teacher learning in model 2

* Variables included for additional analyses.

Table 5.36 summarises the association of school leader transformational practices and individual teacher learning activities with organisational learning. Comparing the results of model 1 and model 2 it may be concluded that when the variable individual teacher learning activities was included as an additional covariate (model 2), it showed a positive relation with organisational learning. One school leader transformational practice, performance expectation, which is positively related to organisational learning in model 1, showed no further significant relation with organisational learning. The results also showed that when individual teacher learning was included, three transformational leadership variables still had a significant association with organisational learning; these were vision and goals, intellectual stimulation and individualised support.

Maputo City, Maputo Province and gender, were still negatively associated with organisational learning. Teachers' desire to teach with the traditional methods (tried and tested methods) and no desire to deviate from the traditional teaching methods were still positively associated with organisational learning. It seemed that this did not necessarily mean resistance to change but perhaps that teachers feel more comfortable using the traditional teaching methods which may enhance organisational learning activities.

Summarising, the results showed that school leader transformational practices (e.g. vision and goals, intellectual stimulation, individualised support and performance expectations) were positively associated with organisational learning. These results were related to Hypothesis 5, which states that the more school leaders undertake transformational leadership practices the more their teachers adjust work activities through mutual consultation and the informal exchange of information and the more individual teachers and school teams as a "collective" play a role in decision-making for curriculum and teaching innovations. But when individual teacher learning was included as an additional covariate, the significant association of the variable performance expectation disappeared. It may be concluded that in the association between school leader transformational practices and organisational learning, the most important transformational leadership variables are vision and goals, intellectual stimulation, and individualised support.

Individual teacher learning activities were positively associated with organisational learning. These findings are consistent with the Hypothesis 6. The present study hypothesised that the more school leaders undertake transformational leadership practices the more their teachers undertake individual teacher learning activities and the more their schools learn as a whole.

5.4.3 Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), organisational learning dimensions (teacher reports), and individual teacher learning (teacher reports) as the dependent variable

Figure 5.4 provides a graphical illustration of the statistical model. Like figure 5.3, this presents a subset of the general model in section 3.5.

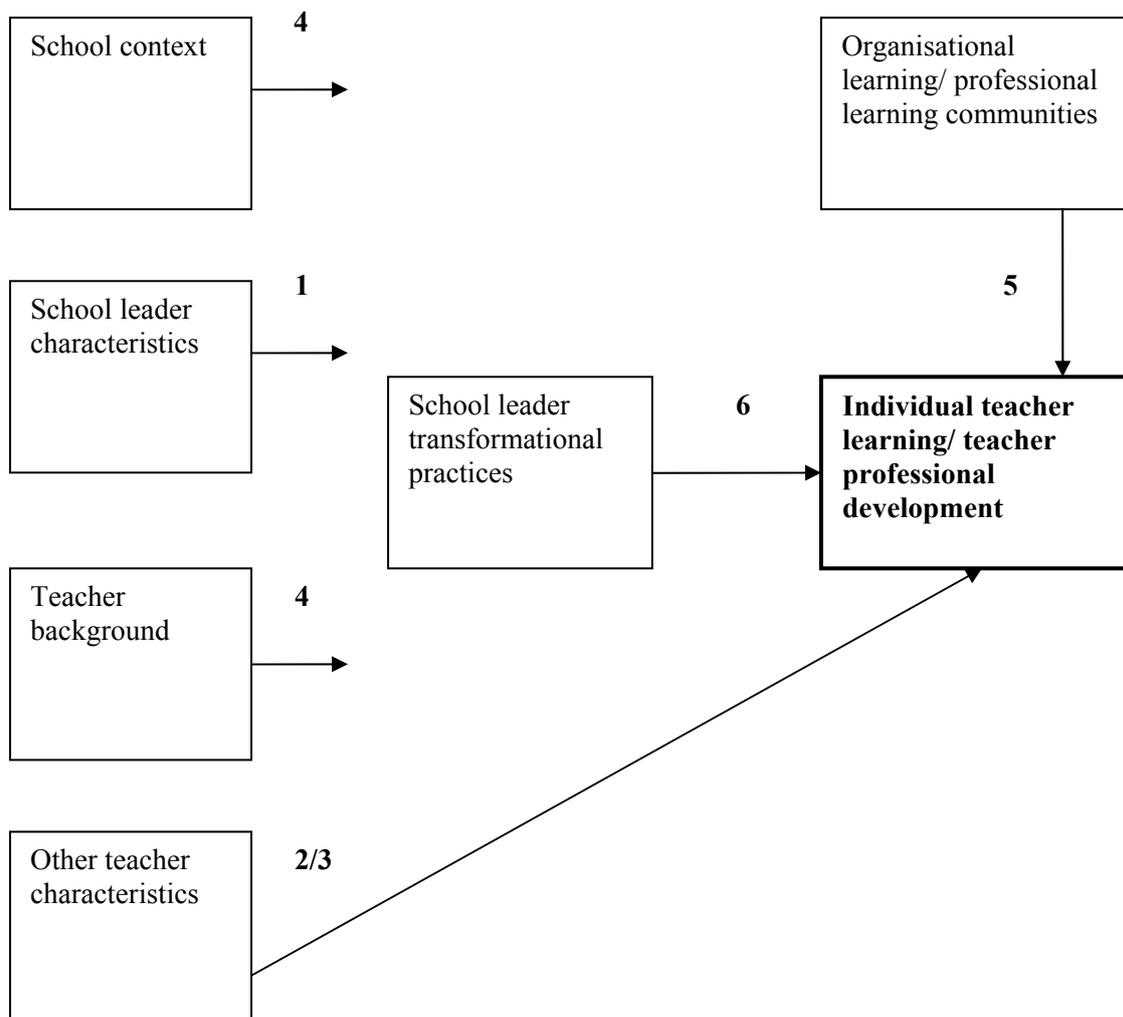


Figure 5.4: Statistical model: Association of school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), organisational learning dimensions (teacher reports), and individual teacher learning (teacher reports) as the dependent variable, controlling for context and background characteristics; the numbers represent hypotheses

Multilevel analyses with ' individual teacher learning' as dependent variable

Table 5.37 shows the association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as covariate) and organisational learning dimensions (teacher reports) with individual teacher

learning activities (teacher reports), which served as the dependent variable (Hypotheses 5 and 6). See appendix G (Tables 11-12) for more elaborate reports.

Table 5.37: *Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning dimensions (teacher reports) and individual teacher learning (teacher reports) as dependent variable*

	analyses based only on school leader transformational practices	analyses based on school leader transformational practices and organisational learning dimensions included
Vision and goals	.214	.162
Culture		
Structure	.109	
Intellectual stimulation		
Individualised support		
Performance expectations	.084	
Difference leaders vs. teachers on transformational leadership	-.184	
Policy evaluation	xxx	.215
Decision making	xxx	
Consultation and co-operation among teachers	xxx	
Consensus	xxx	.099
Number of shifts in which teachers work	.169	.177
Teacher concerns about competencies*		
Teacher likes to teach according to tried and tested ideas or methods*	.120	.093
Teacher feels comfortable when work goes according to fixed routine*		
Teacher does not like to deviate from the traditional teaching method*		
Teacher variance	.255	.242
School variance	.077	.050
Variance explained	53.6%	59.2%

Only effects significant for $\alpha < .05$ (two-tailed) are reported, controlling for context and background characteristics, and for organisational learning dimensions in model 2

* Variables included for additional analyses.

xxx = effects not included in the analysis

Results (model 1) showed that individual teacher learning activities was associated with vision and goals (.214), structure (.109) and performance expectations (.084).

As mentioned in 5.4, this study also took into account in the analysis that differences in perception between teacher and school leaders on school leader transformational practices may itself have an effect on relevant outcome variables. Findings showed that these differences seemed to be negatively associated with individual teacher learning activities (-.184). In previous associations (subsections 5.4.1 and 5.4.2) the variable “difference between leaders and teachers on transformational leadership” used as a covariate showed no relation with organisational learning.

The variable “number of shifts which teachers work” (.169) was found to be positively associated with individual teacher learning activities. Teachers’ desire to teach with traditional methods (tried and tested methods) (.120) was also positively associated with individual teacher learning activities.

When organisational learning aspects were included as additional covariates (model 2) in these analyses, two school leaders’ transformational practices (structure and performance expectation) were no longer related to individual teacher learning activities. The variable “difference between leaders and teachers on transformational leadership” used as a covariate also disappeared. Only one school leaders’ transformational practice, vision and goals (.162), was still associated with individual teacher learning activities. Policy and evaluation (.215), and consensus (.099) were organisational learning dimensions associated with individual teacher learning activities. The variable “number of shifts which teachers work” (.177) was still positively associated with individual teacher learning activities.

Teachers’ desire to teach with traditional methods (tried and tested methods) (.093) was also still positively associated with individual teacher learning activities. Thus, again it seemed that this does not necessarily mean resistance to change but perhaps that teachers feel more comfortable using the traditional teaching methods, which may enhance individual teacher learning activities.

Summarising, three school leader transformational practices namely vision and goals, structure and performance expectations were positively associated with individual teacher learning. These results were consistent with Hypothesis 6, which stated that the more school leaders undertake transformational leadership practices, the more their teachers undertake individual teacher learning activities. But when organisational learning dimensions were included as additional covariates the significant associations of the variables structure and performance expectation disappeared. It may be concluded that in the association between school leader transformational practices and individual teacher learning the most important transformational leadership variable was vision and goals.

Two organisational learning dimensions, namely, policy and evaluation, and consensus, were found to be positively associated with individual teacher learning. These findings were related to Hypothesis 5 which stated that the more school leaders undertake transformational leadership practices the more their teachers adjust work activities through mutual consultation and the informal exchange of information and the more individual teacher and school teams as a “collective” play a role in decision-making for curriculum and teaching innovations and the more teachers undertake individual teacher learning activities.

Teachers’ desire to teach with traditional methods was positively associated with individual teacher learning activities. This finding was opposite to Hypothesis 3, which states that the more teachers desire to teach according to traditional methods the less school leaders show transformational leadership practices and the less teachers develop themselves.

5.4.4 Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports), and changing teaching practices (teacher reports) as the dependent variables

As indicated in 5.4, in these analyses the focus was on teacher responses and on differences between school leader and teacher reports on school leader transformational practices. As mentioned, teacher responses were considered most relevant because the dependent variables (e.g. changed teaching practices, individual teacher learning, and organisational learning) are related to teacher behaviour. It was also mentioned that another reason to focus on teacher responses in these analyses was that only teachers were asked to report on aspects of organisational learning and individual teacher learning activities. Figure 5.5 provides a graphical illustration of the statistical model. Like Figure 5.4, this presents a subset of the general model in section 3.5.

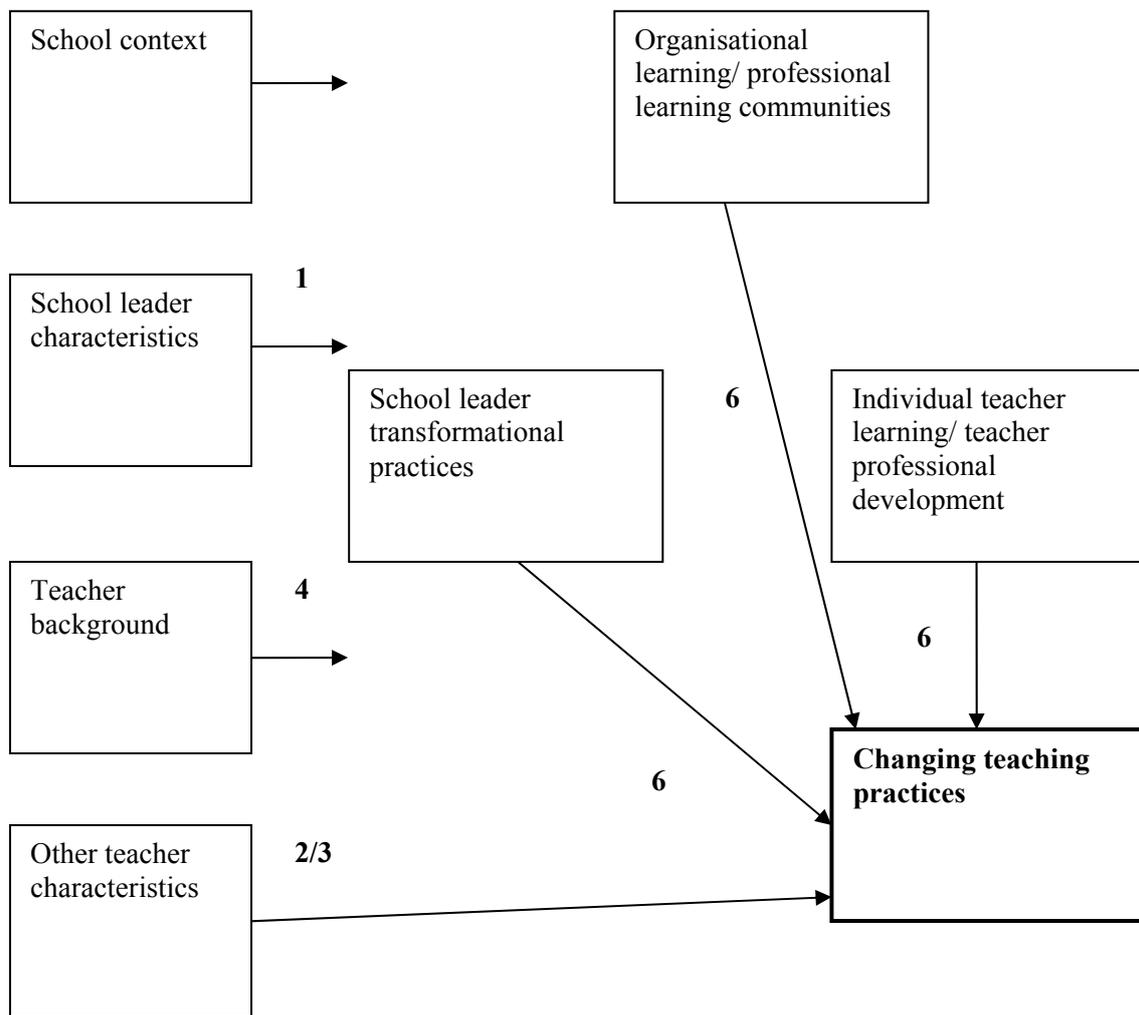


Figure 5.5: Statistical model: Association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports), and changing teaching practices (teacher reports) as dependent variable, controlling for context and background characteristics; the numbers represent hypotheses.

Multilevel analyses with changing teaching practices as dependent variable

Table 5.38 reports the association between school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports) with changing teaching practices (teacher reports) (Hypothesis 6). See appendix G (Tables 13-15) for more elaborate reports.

Table 5.38: Association of school leader transformational practices (teacher reports and difference between school leader and teacher reports as a covariate), individual teacher learning and organisational learning dimensions (teacher reports), and changing teaching practices (teacher reports) as dependent variable

	analyses based only on school leader transformational practices	school leader transformational practices, individual teacher learning activities and organisational learning dimensions included	school leader transformational practices, individual teacher learning activities included, and organisational learning dimensions excluded
Maputo City	-.389		-.386
Maputo Province	-.374		-.335
Number of formal leaders in the school	.033	.027	.028
Vision and goals	.147		
Culture	-.122		
Structure			
Intellectual stimulation	.262	.141	.214
Individualised support			
Performance expectations	.104		
Difference leaders vs. teachers on transformational leadership			
Policy evaluation	xxx		xxx
Decision making	xxx		xxx
Consultation and cooperation among teachers	xxx	.138	xxx
Consensus	xxx	.193	xxx
Individual teacher learning activities	xxx	.325	.393
Training in EAM that awards a certificate attended by school leader	.539	.489	.516
Position before principal or vice-principal	.197	.164	.166
Teacher concerns about competencies*			
Teacher likes to teach according to tried and tested ideas or methods*	.136	.074	.087

	analyses based only on school leader transformational practices	school leader transformational practices, individual teacher learning activities and organisational learning dimensions included	school leader transformational practices, individual teacher learning activities included, and organisational learning dimensions excluded
Teacher feels comfortable when work goes according to fixed routine*			
Teacher does not like deviate from the traditional teaching method*			
Teacher variance	.360	.305	.328
School variance	.072	.047	.046
Variance explained	51.8%	60.7%	52.2%

Only effects significant for $\alpha < .05$ (two-tailed) are reported, controlling for context and background characteristics, and for individual teacher learning and organisational learning dimensions in model 2

* Variables included for additional analyses.

xxx = effects not included in the analysis

Findings demonstrated that in the first model, which did include transformational practices as explanatory variables, but not individual teacher learning or organisational learning, culture (-.122) was negatively associated with changing teaching practices. Vision and goals (.147), intellectual stimulation (.262), and performance expectations (.104) were positively associated with changing teaching practices. Maputo City (-.389) and Maputo Province (-.374) were negatively associated with changing teaching practices. The variable “number of formal leaders in the school” (.033) had a small positive association with changing teaching practices. Training in Educational Administration and Management which awarded a certificate attended by the school leader (.539) and having occupied a management position before becoming principal or vice-principal (.197) were positively associated with changing teaching practices. Teachers’ desire to teach with traditional methods (tried and tested ideas or methods) (.136) also appeared to be associated with changing teaching methods. The difference between leaders and teachers on transformational leadership seemed to have no association with changing teaching practices.

Combining school leader transformational practices, individual teacher learning activities and organisational learning dimensions as additional covariates (model 2), results showed that the association of culture and changing teaching practices disappeared. Only one dimension of school leader transformational practice, intellectual stimulation (.141), two organisational learning variables, consultation and co-operation among teachers (.138), and consensus (.193) as well as individual teacher learning

activities (.325) appeared to be significantly associated with changing teaching practices. The variable “number of formal leaders in the school” (.027) still had a small positive association with changing teaching practices. Training in Educational Administration and Management that awards a certificate attended by the school leader (.489) and having occupied a management position before becoming principal or vice-principal (.164) were also still positively associated with changing teaching practices. Teachers’ desire to teach with traditional methods (tried and tested ideas or methods) still had a small (.074) but significant association. Taking into account the variance explained, the findings suggest that there was a strong relationship between intellectual stimulation (transformational leadership practice), consultation and cooperation among teachers, and consensus (organisational learning dimensions), individual teacher learning, and changing teaching practices.

When organisational learning dimensions were excluded from these analyses (model 3), the findings showed that intellectual stimulation (.214) and individual teacher learning activities (.393) were still associated with changing teaching practices. As in models 1 and 2, the variable “number of formal leaders in the school” (.028) still had a small positive association with changing teaching practices. Training in Educational Administration and Management that awards a certificate attended by the school leader (.516) and having occupied a management position before becoming principal or vice-principal (.166) were also still positively associated with changing teaching practices. Again, teachers’ desire to teach with traditional methods (tried and tested ideas or methods) (.087) was also associated with changing teaching practices.

In the analyses concerning the association of school leader transformational practices and organisational learning, individual teacher learning, and changing teaching practices, the variable “teachers concerns about competencies” was included for additional analyses. Findings showed that this variable was not associated with organisational learning, individual teacher learning nor with changing teaching practices. However in section 5.1, findings showed that school leaders, as well as teachers, felt comfortable dealing with educational changes in the field of curriculum and teaching.

These analyses were based on Hypothesis 6 which stated that the more school leaders undertake transformational leadership practices the more their teachers undertake individual teacher learning activities and the more their schools learn as a whole and teachers change teaching practices.

Summarising, school leader transformational practices (e.g. vision and goals, intellectual stimulation and performance expectations) were positively associated with changing teaching practices. These findings were consistent with Hypothesis 6. But when individual teacher learning activities and organisational learning dimensions were included as additional covariates only the intellectual stimulation aspect of

transformational practices was still positively related to changing teaching practices. Also when organisational learning dimensions were excluded intellectual stimulation is still positively associated with changing teaching practices. It may be concluded that, in the association between school leader transformational practices and changing teaching practices the most important transformational leadership variable was intellectual stimulation.

When individual teacher learning was included as an additional covariate, it was positively associated with changing teaching practices. This result was also in line with Hypothesis 6. When organisational learning dimensions were excluded, individual teacher learning was still positively related to changing teaching practices.

When organisational learning dimensions were also included as additional covariates (e.g. consultation and cooperation among teachers and consensus) they showed a positive association with changing teaching practices. These results were also consistent with Hypothesis 6. But individual teacher learning seemed to be more important than organisational learning in the association with changing teaching practices.

Two school leader characteristics showed a positive association with changing teaching practices; these were having received training in Educational Administration and Management (awarding a certificate) and having occupied a position before becoming principal or vice-principal which refers to a previous management position fulfilled by the principal or vice-principal (e.g. principal, vice-principal, area co-ordinator, cycle co-ordinator, and administrative and financial assistant).

These analyses were also based on the Hypotheses 2 and 3. The results did not confirm the hypothesis that the more school leaders and teachers feel confident with respect to their competencies associated to curriculum and teaching innovations the more school leaders show transformational leadership practices and the more teachers develop themselves and change teaching practices (Hypothesis 2). Findings suggest that teacher concerns about competencies were not associated with organisational learning, individual teacher learning nor with changing teaching practices.

In the present study teachers' desire to teach with traditional methods was positively associated with changing teaching practices. These findings were opposite to Hypothesis 3. This study hypothesised that the more teachers desire to teach according to traditional methods the less school leaders show transformational leadership practices and the less teachers develop themselves and do not change teaching practices.

5.4.5 Conclusion and implications

From the conclusion aforementioned, it seems that for school change and improvement, school leaders should stimulate organisational and individual teacher learning activities,

by working toward whole staff consensus in establishing priorities and communicating these priorities and goals to staff. School leaders should give a sense of overall purpose and should encourage staff to reflect on what they are trying to achieve with students and how they are doing it. Thus, it seems that there is an important role for self-reflection, evaluation, and performance feedback in schools as learning organisations. For further research, the issue of self-reflection, evaluation and performance feedback should be taken into account in order to understand its importance with regard to organisational learning, individual teacher learning and changing teaching practices. School leaders should also facilitate opportunities for staff to learn from each other and stimulate continual learning in their own practice.

As mentioned above further study should be conducted to understand the factors which determine the teachers' desire to teach according to traditional methods.

5.5 Summary

In this chapter the results of the data analysis concerning school leaders' transformational practices and educational changes were reported. Then the variation in school leadership and the findings regarding teacher development activities (changed teaching practices, learning activities and teacher commitment) and organisational learning (professional learning communities) were also reported. Finally this chapter reported and discussed the associations between school leader transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development) and changing teaching practices (curriculum implementation). In each section the main partial conclusions and implications for this and for further study, as well as for school leader practices were presented.

Chapter 6

General Conclusions, Discussion, and Recommendations

In this chapter, the findings of this investigation are reviewed and discussed. Then some general conclusions are drawn, referring back to the research questions and hypotheses of this study. Finally, a number of recommendations for further research on educational leadership and educational policy are outlined.

General conclusions

The main goal of the present study was to examine the association between transformational leadership and organisational learning (professional learning communities), individual teacher learning (teacher professional development activities), and changing teaching practices (curriculum implementation). This research investigated to what extent school leaders undertake the new responsibilities (school leader transformational practices) assigned to them by the Government. These new responsibilities, allocated to school leaders, are aimed at development of schools and teachers. Next, the study explored which factors account for variation in school leadership activities; to what extent teaching practices have changed and to what extent teachers within schools undertake development and learn as a team; and to what extent transformational leadership accounts for organisational learning, individual teacher learning, and changed teaching practices. Besides, the study also paid attention to the differences in perception between school leaders (principals and vice-principals) and teachers, both with regard to school leader and teacher activities.

In order to answer most of the research questions, multilevel analysis was required. In each case the analysis took into account the effects of school characteristics (e.g. the school composition), teacher background, and school leader characteristics (e.g. gender, task perceptions, competencies and training). Other relevant teacher characteristics (e.g. concerns about competencies, and teachers' desire to teach according to traditional methods) were included for additional analyses, because these factors may themselves have an effect on the relationship between school leader transformational practices, organisational learning, individual teacher learning and changing teaching practices. On the basis of the results, the following general conclusions may be drawn.

Firstly, the quantitative approach allowed the study to obtain the most complete picture of the situation, including important contextual characteristics. The use of two questionnaires with 5-point Likert-type items (ranging from strongly disagree or not important [1] to strongly agree or very important [5]), other closed questions and a few open-ended questions administered to a number of school leaders (principals and vice-principals) and teachers was found to be satisfactory in order to collect sufficient information to explore the key variables in this study.

The second conclusion relates to the background characteristics of the respondents and organisational units of participating provinces and schools. With regard to school leader and teacher characteristics, only a limited number of differences between provinces or between females and males were found. The majority of school leaders and teachers have received teacher training. Concerning academic qualifications Maputo City presents more school leaders and teachers with higher education qualifications than other provinces. The teachers sample is representative with respect to their academic qualifications and professional training (teacher training). With respect to teacher academic qualifications the sample is representative of the total population of teachers in primary education because in this study 92.5% of the participating teachers have basic or secondary education (see appendix D, Tables 13 and 14), while in Mozambique as a whole 91.9% of teachers in primary education have basic or secondary education (see appendix D, Table 16). Teacher specialisation is related to professional training in teaching that leads to an academic degree. Regarding teacher professional training the sample is also representative of the total population of teachers in primary education. In the present study 74.1% of the participating teachers did receive teacher training (see appendix D, Table 15). In Mozambique 66.9% of teachers in primary education did receive teacher training (see appendix D, Table 17).

The third conclusion is drawn from the preliminary analyses (reliability of the scales used). The primary aim was to construct scales with a minimum reliability of .60 (Cronbach's alpha) for each concept addressed in the questionnaire. In almost every case it was possible to construct a scale with a reliability of .60 or higher. The two exceptions were "work pace and workload" (based on school leader responses) and "teacher commitment" (based on teacher responses). In total, 32 scales were constructed (14 based on school leader responses and 18 based on teacher responses). Nine school leader and teacher scales relate to the same construct (e.g. changed teaching practices). Thus, several variables are measured from both the teacher and the school leader perspective. These scales are based on (almost) identical items.

School leader transformational practices and educational changes

The fourth conclusion relates to school leader transformational practices and educational changes (Question 1). In this subsection, the conclusions are concerned mainly with the extent to which school leaders undertake transformational leadership practices. Results showed that in general the reports by both school leaders and teachers on the various facets of transformational leadership were positive (from agree to strongly agree). It may be concluded that school leaders and teachers reported that they do carry out the actions expected from them, given the reform policy. School leaders were found to be more positive in this respect than teachers. There was more variation in teacher responses than in school leader responses. In this respect it is also important to note that the conclusion is not based solely on self-reports. The outcomes of this study are also based on the teacher reports of school leader behaviour and on the school leader reports of teacher behaviour.

Findings regarding “Concerns about competencies” indicate that school leaders, as well as teachers felt comfortable dealing with educational changes in the field of the curriculum and teaching. However, the responses indicated a higher number of concerns among teachers than among school leaders. Both school leaders and teachers reported that the main aspects of transformational leadership are realised in primary education in Mozambique.

Agreement within schools on school leader transformational practices, educational changes, and other variables

The fifth conclusion relates to the extent of agreement within schools among school leaders, and among teachers, and also between school leaders and teachers on school leader transformational practices, educational changes, and other variables (Questions 1.a, 1.b, and 1.c). The amount of agreement among school leaders within schools and among teachers within schools was expressed through intra-class correlations. For example, a moderate size of intra-class correlation expressed a moderate degree of agreement among school leaders and among teachers on school leader transformational practices, educational changes, and other variables. The correspondence between school leaders and teachers within schools was based on the difference between responses of school leaders (principals and vice-principals) and teachers concerning school leader transformational practices and educational changes (“concerns about competencies” and “values”). The findings revealed a number of differences between school leader self-perception and teacher perceptions of the transformational practices of school leaders. Also “Values” show differences between school leader and teacher responses. School leaders were largely found to be more positive than teachers regarding school leader transformational practices and ‘values’. ‘Values’ refers to the extent to which school leaders or teachers agree with a number of teaching approaches. This indicated that school leader support for the different dimensions of transformational leadership was stronger than that of the teachers.

A further remarkable finding was the consistent lack of significant correlations between school leader and teacher responses with regard to transformational leadership and educational changes. When school leader responses were positive, the chances that teachers in their school agreed or disagreed were found to be approximately equal. School leaders within schools gave similar responses regarding the leadership practices within their schools. The same applied to teachers. Sometimes teachers agree with their school leaders, but almost as frequently they did not.

Variation in school leadership

The sixth conclusion refers to factors which accounted for variation in school leadership activities (Question 2). A limited number of significant effects, of school context, school leader and teacher background variables on transformational leadership activities were found. The school context variables (province, pupil background and teacher quality both as perceived by school leaders, number of teachers in the school, and

school location) showed a relation with school leader transformational practices. School leader background characteristics (e.g. general education and gender), and teacher training up to the level of academic degree, in order to deal with the new curriculum, were also related to school leader transformational practices.

In the present study, in schools in which school leaders had indicated a middle class pupil background, teachers rated the activities of their school leaders as in line with the vision and goals dimension of transformational leadership more strongly than teachers from other schools. Also, teachers perceived by school leaders as being of moderate or good quality, reported a higher degree of transformational leadership in their schools. It can be concluded that these results confirm Hypothesis 4, which stated that the more schools have pupils from middle class background or from privileged families and good quality teachers (both as perceived by school leaders) the more school leaders show transformational leadership practices.

The analyses of the relationship between school context and differences between leaders' and teacher reports showed associations with "School province", "Pupils' background", and "School location (urban/rural)". The findings show that, in schools with pupils from middle class background, the difference between leader and teacher reports is smaller, and the difference between leader and teacher reports in Maputo Province and in urban schools was greater. Although not included in a specific hypothesis, these findings are in line with the general expectation (Expectation number 5, see section 3.3) which stated that school context (e.g. province, urban-rural, pupil background and quality of teachers perceived by school leaders) has an impact on transformational leadership practices.

Results concerning the association between school context, school leader characteristics, teacher background, and the average over six transformational leadership dimensions, revealed that when the analyses were based on school context only, teachers perceived by school leaders as being of moderate or good quality, reported more transformational leadership practices in their schools. These results are consistent with Hypothesis 4, which stated that the more schools have good quality teachers, as perceived by school leaders, the more school leaders show transformational leadership practices. Hypothesis 4 also stated that the more schools have pupils from middle class backgrounds or from privileged families, as perceived by school leaders, the more school leaders show transformational leadership practices. Yet the findings did not show a significant association between pupil background and the average over six transformational leadership dimensions. Some school leader background characteristics (e.g. general education; and gender) were found to be associated with school leader transformational practices.

In this research, teachers reported less transformational leadership activities at schools where school leaders had no training in teaching or school management. But, when all

context and background characteristics were included as explanatory variables, the association between school leader specialisation (general education) and transformational practices disappeared. As indicated, the findings showed no association between school leader experience and transformational leadership practices. It may be concluded that the findings of the present study are only partially consistent with Hypothesis 1, which proposed that the more expert and experienced school leaders are, the more they show clear practices associated with transformational leadership.

Teachers also reported fewer school leader transformational practices where the school leaders were male. As indicated, female school leaders appeared to be more committed to the school leader transformational practices than males. Although not included in a specific hypothesis, in general Expectation 4 (see section 3.3) it was expected that school leader gender would be associated with transformational leadership practices. This was expected because prior studies related to gender and school leadership (e.g. Hallinger, Bickman & Davis, 1996; Lee, Smith & Cioci, 1993, Krüger, 1994, Krüger, 1996, as cited in Krüger & Witziers, 2004; Highsmith & Rallis, 1986, as cited in Chell, 1995; Shakeshaft, 1990, as cited in Fullan, 1991) reported differences between male and female school leaders.

General Expectation 5 indicated that school context (e.g. province, urban-rural, pupil background and quality of teachers perceived by school leaders) has an impact on transformational leadership practices. But it was not expected that in schools with fewer teachers (smaller schools) school leaders could be seen as less committed to transformational practices than school leaders in larger schools. General expectation 5 also suggested a relationship between teacher background (e.g. gender, experience, competencies and teacher training) and transformational leadership practices. In the present study, teacher gender showed no association with school leader transformational leadership.

Hypothesis 4 related to general Expectation 5 suggested, among other aspects, that the more schools have qualified and experienced teachers the more school leaders show transformational leadership practices. Surprisingly teachers who attended training up to an academic degree, in order to deal with the new curriculum reported fewer school leader transformational leadership practices. A possible explanation for this may be that the training renders teachers more aware of transformational leadership and raises their expectations. Teacher experience showed no relation with school leader transformational leadership.

From the aforementioned conclusions, it seems that school context, school leader characteristics, and teacher background are not strongly associated with school leader transformational practices. As mentioned above, the school context variables which showed a significant association with school leader transformational practices are province, pupil background and quality of teachers both as perceived by school leaders,

number of teachers in the school, and school location (urban/rural). Only two school leader background characteristics (general education and gender), and only one teacher background variable (training up to an academic degree attended by teachers in order to deal with the new curriculum) were found to be related to school leader transformational practices.

School context variables such as school level, pupil-teacher ratio, and number of formal leaders in the school, showed no association with school leader transformational practices. School leader background characteristics namely experience as principal or vice-principal, academic qualifications, training topics in EAM, nature/type of training, number of types of training in EAM, and having occupied a co-ordinating position before becoming principal or vice-principal, showed no association with school leader transformational practices. Teacher background characteristics such as specialisation (professional training in teaching that leads to an academic degree), experience, gender, academic qualifications, and number of shifts teachers work, showed no association with school leader transformational practices. Neither did aspects of teacher training and professional development correlate with school leader transformational practices.

Teacher development activities (changed teaching practices, teacher learning activities, and teacher commitment) and organisational learning

The seventh conclusion refers to related to teacher development activities (changed teaching practices, teacher learning activities and teacher commitment) and organisational learning (Question 3). In this subsection, the conclusions are related to the extent to which teachers reported that they had changed their teaching practices and the extent to which teachers undertook development activities and learned as a team. With regard to “changed teaching practices” for the most part, the findings showed that school leader and teacher responses were from neutral to positive. The size of the difference between the mean of the school leader response and the mean of the teacher was negligible. There was more variation in teacher responses than in school leader responses. Exceptions relate to the variables “teachers’ desire to teach according to traditional methods” as well as to “instruction less whole-class oriented”. Despite the finding that school leaders’ and teachers’ responses show a positive attitude towards a student-centred teaching approach, the findings also showed that teachers felt comfortable working according to traditional teaching methods. School leaders and teachers indicate a preference for instruction to be whole-class oriented. The findings illustrate that the teacher instruction method is still whole-class oriented.

With respect to individual teacher learning activities and teacher commitment the findings showed positive responses from teachers, which indicates that teachers report positively on their own learning activities and commitment. Results showed that teachers agreed when reporting on organisational learning.

Agreement within schools on teaching practices, individual teacher learning activities, teacher commitment, and organisational learning

The eighth conclusion relates to agreement within schools among teachers, among school leaders and between school leaders and teachers on teaching practices, individual teacher learning activities, teacher commitment and organisational learning (Questions 3.a; 3.b; and 3.c). The agreement among school leaders and between school leaders and teachers were analysed only with regard to teaching practices.

The extent of agreement among teachers within schools when reporting their own teaching practices and development activities (Question 3.a), indicated that for teachers the intra-class correlation was high on “Changed teaching practices”. This means that there was a high level of agreement among teachers within schools with regard to the new, learner-centred teaching approach. Agreement among teachers with respect to teachers’ desire to teach according to traditional methods was found to be small, and this is also the case for whole-class oriented instruction. Results indicate that the level of agreement among teachers within schools was high when reporting on their individual teacher learning activities, moderate when reporting on organisational learning, and low on commitment.

A low level of agreement was found among school leaders within schools when reporting on teaching practices of their teachers (Question 3.b). Results based on less than whole-class oriented instruction suggested high agreement among school leaders within schools when reporting on values in the Mozambique reform, especially with regard to instruction being less than whole-class oriented. These findings showed more moderate agreement among school leaders within schools when reporting their perception on how teachers actually teach.

All correlations between teacher and school leader scores concerning their reports on changed teaching practices and on teachers’ desire to teach according to traditional methods (Question 3.c) were very low. This means that despite some agreement among school leaders and among teachers within schools, there were different perceptions between school leaders and teachers working in the same school. The descriptive statistics on difference between school leaders and teachers’ scores illustrated that, in all variables teachers agreed more than school leaders. The difference between teachers and school leader responses on “Changed teaching practices” suggested that school evaluation and monitoring are possibly not well developed.

Relations between school leaders, transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development), and changing teaching practices (curriculum implementation)

The last conclusion pertains to relations between school leaders, transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development) and changing teaching practices

(curriculum implementation) (Question 4). In this subsection, the conclusions are related to the extent to which transformational leadership accounts for organisational learning, individual teacher learning and changed teaching practices.

Focus on teacher reports and on differences between teachers and school leader reports on school leader transformational practices

In these analyses, there was a focus on teacher reports and on differences between teacher and school leader reports on school leader transformational practices. In the current investigation teacher responses were considered most relevant, because the dependent variables (e.g. changed teaching practices, individual teacher learning, and organisational learning) were related to teacher behaviour. This study also takes into account that difference in perception between teachers and school leaders may itself have an effect on relevant outcome variables. As indicated in section 5.1, for each school an average of school leader responses was calculated, and then the difference between these scores and teacher responses was computed. These differences were used as covariates in analyses with organisational learning, individual teacher learning and changed teaching practices as dependent variables. This work reported descriptive statistics showing teachers being either more or less positive than school leaders on school leader transformational practices.

Associations between school leader transformational practices and organisational learning

The findings concerning the associations between school leader transformational practices and organisational learning revealed significant associations of some aspects of school leader transformational practices and organisational learning. Four school leader transformational practices, namely vision and goals, intellectual stimulation, individualised support and performance expectations showed a positive relation with organisational learning. These findings are partially consistent with Hypothesis 5. At the outset of this work it was hypothesised that the more school leaders undertake transformational leadership practices, the more teachers adjust work activities, through mutual consultation and the informal exchange of information, and the more individual teachers and school teams as a “collective” play a role in decision-making for curriculum and teaching innovations. But, when individual teacher learning was included as an additional covariate, the significant association of the variable ‘performance expectation’ disappeared. The results show that in the association between school leader transformational practices and organisational learning the most important transformational leadership variables were vision and goals, intellectual stimulation, and individualised support.

When individual teacher learning was included in the analysis as an additional covariate, it was positively related to organisational learning. This finding was consistent with Hypothesis 6, which stated that the more school leaders undertake

transformational leadership practices the more their teachers undertake individual teacher learning activities and the more their schools learn as a whole.

Teachers from Maputo Province and Maputo City were found to be less positive when reporting on organisational learning in their schools than teachers from other regions. Male teachers were more critical on aspects related to organisational learning. With respect to other teacher characteristics, surprisingly, teachers' desire to teach with traditional methods was found to have a small positive association with organisational learning.

The results showed that pupil background (school leader perception) was positively associated with consensus which is an organisational learning dimension. More consensus among teachers working in schools with pupils from middle class background than among teachers working in other schools was found. Consensus is related to common views on matters such as the tasks and function of the school, subject matter goals, teaching and teaching content.

Association between school leader transformational practices and individual teacher learning

The analyses related to the association between school leader transformational practices and individual teacher learning show that three school leader transformational practices, namely, vision and goals, structure and performance expectations were positively associated with individual teacher learning. These results were consistent with Hypothesis 6, which stated that the more school leaders undertake transformational leadership practices the more their teachers undertake individual teacher learning activities. But, when organisational learning dimensions were included as additional covariates, the significant associations of the variables structure and performance expectation disappeared. It may be concluded that vision and goals emerge as the facets of transformational leadership which do indicate an association with individual teacher learning.

Two organisational learning dimensions, namely, policy and evaluation and consensus were positively associated with individual teacher learning. These findings were partially related to Hypothesis 5, which stated that the more school leaders undertook transformational leadership practices, the more their teachers adjusted work activities through mutual consultation and the informal exchange of information. Finally, it may be concluded that the more individual teacher and school teams as a "collective" played a role in decision-making for curriculum and teaching innovations and teachers had common views on matters such as the tasks and function of the school, subject matter goals, teaching and the teaching content, the more teachers undertook individual teacher learning activities.

Hypothesis 3 stated that the more teachers desire to teach according to traditional methods, the less school leaders showed transformational leadership practices and the less teachers developed themselves. In Mozambique, curriculum reform is aimed to create an environment that is conducive to a more learner-centred approach. According to Kwakman (2003) professional development may be described as the process by which teachers acquire the new knowledge, skills, and values for the constant improvement of the quality of their teaching practices. However, professional development of teachers “*depends on the characteristics of the teachers themselves and also on the characteristics of the environment in which the teachers work and function*” (Geijsel, 2001, p. 40). Thus, if teachers desire to teach using traditional teaching methods, it was expected that this might discourage their participation in individual learning activities. Yet teachers’ desire to teach using traditional methods was positively associated with individual teacher learning activities. It seems that the preference for traditional methods does not necessarily mean resistance to change or improvement but may be that teachers feel more comfortable using the traditional teaching methods, which may in turn enhance individual teacher learning activities.

Association between school leader transformational leadership and changing teaching practices

The analyses concerning the association between school leader transformational leadership and changing teaching practices were based on Hypothesis 6, which stated that the more school leaders undertook transformational leadership practices, the more their teachers undertook individual learning activities and the more their schools learned as a whole and teachers changed teaching practices.

School leader transformational practices (e.g. vision and goals, intellectual stimulation, and performance expectations) were positively associated with changing teaching practices. These findings are consistent with Hypothesis 6. But when individual teacher learning activities and organisational learning dimensions were included as additional covariates, only the intellectual stimulation aspect of transformational practices was still positively related to changing teaching practices. Also when organisational learning dimensions were excluded, intellectual stimulation was still positively associated with changing teaching practices. It may be concluded that in the association between school leader transformational practices and changing teaching practices the most important transformational leadership variable is ‘intellectual stimulation’.

When individual teacher learning was included as an additional covariate, it was positively associated with changing teaching practices. This result also was in line with Hypothesis 6. When organisational learning dimensions were excluded individual teacher learning was still positively related to changing teaching practices.

When organisational learning dimensions were also included as additional covariates (e.g. consultation and cooperation among teachers, and consensus) they showed a

positive association with changing teaching practices. These results were also consistent with the Hypothesis 6. But individual teacher learning appeared to be more important than organisational learning in the association with changing teaching practices.

Two school leader characteristics showed a positive association with changing teaching practices. These were having received certified training in Educational Administration and Management and having occupied a coordinating position before becoming principal or vice-principal (e.g. principal, vice-principal, area co-ordinator, cycle co-ordinator, and administrative and financial assistant).

Teachers' desire to teach using traditional methods was positively associated with changing teaching practices. Thus, again, it appeared that this preference for traditional methods did not necessarily mean resistance to change or improvement but may be that teachers reported feeling more comfortable using the traditional teaching methods. Apparently, for teachers in Mozambique using traditional teaching methods does not preclude changing teaching practices.

Limitations of the study

This study aimed to examine the association of transformational leadership, organisational learning, individual teacher learning, and changing teaching practices controlling for school context, school leader characteristics, and teacher background. Most of these factors were taken into account. Other factors (e.g. task orientation, support from provincial and district office, support from school leaders and other supervisors, and task autonomy) were not taken into account in the data analyses. Despite their possible relevance they were not included to account for the variation in school leader transformational practices. Factors such as school district size and complexity, district support and expectations and other factors may also shape the principal's approach to leadership (Hallinger, Bickman, & Davis, 1990), but the focus of the present study was on the effects of school leadership rather than school context. Given the relatively limited size of our sample (95 schools), the number of explanatory school and context variables had to be limited as well. As a result not all possibly relevant context factors could be taken into account.

Cultural contingencies, as referred to by Fuller and Clark (1994, as cited Scheerens, Glas, & Thomas, 2003, p. 253) were relevant for studies in developing countries but it was beyond the scope of the present research to address this issue.

This research did not examine the association of transformational leadership, organisational learning, individual teacher learning, changing teaching practices and student learning. The present study was limited to changed teaching practices (assessed through self-reports). Leadership contributes to organisational learning, which in turn influences what happens in the core business of the school – the teaching and learning (Mulford, 2003).

In this investigation, data from the questionnaires were entered in SPSS to explore descriptive statistics, conduct reliability analyses and multilevel analyses. The multilevel analyses were used to assess the amount of variability due to each level. The present study could have addressed the issue of indirect effects more appropriately with structural equation modelling (SEM) but assessing reciprocal relationships (organisational learning – individual learning) with cross-sectional data would be very questionable.

Discussion

School leader transformational practices and educational changes

As mentioned in the conclusion, both school leaders and teachers reported that the main aspects of transformational leadership are realised in Mozambique. The usability of transformational leadership in a developing country context, more concretely in African settings, is consistent with the ideas of Nguni (2005) and Nguni, Slegers, and Denessen (2006), which in turn are in line with conclusions reached by Bass (1985, 1997). The results of Nguni and his colleagues showed that the approach could be used in the setting of Tanzania. According to Nguni et al. (2006), the results of their study “*confirm Bass’s (1985, 1997) claim about the universality of the transformational and transactional paradigm across different nations and societies.*” (p. 171)

There were differences between school leader self-perception and teacher perceptions concerning school leader transformational practices and educational changes. These findings are in line with reports of several authors. In non-school contexts substantial differences have been reported between the self-ratings of leaders and their subordinates’ perceptions of transformational leadership (e.g. Krishnan, 2003; Atwater & Yammarino, 1992; Yammarino & Atwater, 1997; Atwater & Yammarino, 1997; Sosik and Megerian, 1999, Godshalk & Sosik, 2000, as cited in Krishnan, 2003). In school contexts too, the self-awareness of principals differs from teachers’ perceptions of transformational school leadership (e.g. Toonen & Moolenaar, 2009).

In this research school leader reports of their own transformational practices were more favourable than the reports of their teachers. These results are consistent with evidence provided by Toonen and Moolenaar (2009), who reported that the self-ratings of principals are higher on dimensions of transformational leadership than teacher ratings. Self-ratings tend to be inflated, suffering from leniency and social desirability biases (e.g. Atwater & Yammarino, 1992, and Podsakoff & Organ, 1986, as cited in Atwater & Yammarino, 1992). However, in this study there was some agreement among school leaders and among teachers within schools, on school leader transformational practices, and educational changes.

Variation in school leadership

Despite the limited number of significant effects of school context, school leader and teacher background on school leadership activities, variables such as “School province”, “Pupil background as perceived by school leaders”, “Number of teachers in the school”, “Quality of teachers as perceived by school leaders” and “School location (urban/rural)” were found to be associated with school leader transformational practices. The variation in educational leadership is determined by, amongst other things, characteristics of the school (Hallinger, Bickman & Davis, 1990; Boyd 1992; Hallinger, Bickman & Davis, 1996; Leithwood & Levin, 2005; Kruger, Witziers & Slegers, 2007 as cited in Ten Bruggencate, Luyten & Slegers, 2009). In the present study, teachers working in schools in which school leaders indicated a middle class pupil background, rated the activities of their school leaders as more strongly in line with the vision and goals dimension of transformational leadership than teachers from other schools. Prior research has shown that student SES (socioeconomic status) influences the type of leadership principals exercise. Principals in higher-SES schools exercised more active instructional leadership than principals of lower SES (Hallinger, Bickman & Davis, 1996). The composition of the student population and the school environment (socioeconomic status of families, and geographic location) constrain the principal and provide different opportunities for leadership (Hallinger, Bickman & Davis, 1990, as cited in Boyd, 1992).

As mentioned earlier, the results showed that school leader perception of pupil background was positively associated with consensus, which is an organisational learning dimension. There was more consensus among teachers working in schools with pupils from middle class backgrounds than among teachers working in other schools. As indicated, consensus is related to common views on matters such as the tasks and function of the school, subject matter goals, teaching, and the teaching content. Based on 15 case study schools, Sheppard (2003) found that changing school practices is very much dependent upon the level of organisational learning in a particular school. He also found that formal planning processes provide continuity of organisational learning only if there exists a critical mass of leadership that is collaborative and distributed. In a school located in an urban centre, drawing students primarily from a suburban, upper-middle class neighbourhood, the principal noted that decision-making is a consultative process. Teachers noted that most decisions are made collaboratively and that there is a good committee structure in place. There is evidence of an emerging culture of learning, a collaborative learning school. The school in question was clearly engaged in organisational learning as it focused on “*ongoing improvement and continuously created and re-established structures that facilitated the acquisition, sharing, and utilization of new knowledge*”. (Sheppard, 2003, p. 7)

Teachers, perceived by school leaders as being of moderate or good quality, reported a higher degree of transformational leadership in their schools. It appears that in such cases school leaders and teachers trusted each other. Trust allows teachers to be

vulnerable and open to new learning experiences that are central to ongoing teacher development in schools and motivate teachers to engage in instructional change (Bryk & Schneider, 2002, as cited in Moolenaar, 2010). *“Teacher satisfaction with the school leadership team is a significant predictor of the extent of teacher involvement and engagement with the school and learning. Satisfaction with leadership is dependent on the extent that school leaders are skilled in transformational practices.”* (Silins & Mulford, 2002, p. 442).

In schools with fewer teachers (smaller schools), school leaders were seen as less committed to school leader transformational leadership practices than school leaders in larger schools. It is possible that school leaders were less committed to transformational leadership due to teaching tasks. However, this is in contrast with findings reported by Silins and Mulford (2002), Silins, Mulford, & Zarins (2002), and Mulford (2003), which indicate that the smaller schools are more likely to be associated with the transformational practices. Larger schools do not provide the environment most conducive for principal transformational and teacher distributive leadership (Mulford, 2003).

In the present study, teachers reported less transformational leadership activities at their schools when school leaders had no training in teaching or school management. The results of Leithwood and Steinbach’s (1991) research suggested differences between expert and typical principals’ problem-solving processes. *“Experts clearly believed that thinking often leads to better results and that staff members working together could think better than when they were working alone.”* (p. 241) Expert principals have shown clear practices associated with transformational leadership in their solution processes. *“Expert principals were open-minded, honest, careful, attentive to the group’s needs, and attentive to their thinking.”* (p. 241)

In this study, teachers also reported less school leader transformational practices when their school leaders are male. It seems that female school leaders were more committed to the school leaders’ transformational practices than males. Other authors (e.g. Hallinger, Bickman & Davis, 1996; Lee, Smith & Cioci, 1993, Krüger, 1994, Krüger, 1996, as cited in Krüger & Witziers, 2004) have also noted differences between male and female school leaders. Female elementary school principals have been found to exercise more active leadership in the areas of curriculum and instruction than their male peers (Hallinger, Bickman & Davis, 1996). Female teachers spend more time on educational programmeimprovement activities than do male teachers. They are more attuned to curriculum issues, instructional leadership, teacher concerns, parent involvement, staff development, collaborative planning strategies, and community building (Highsmith & Rallis, 1986, as cited in Chell, 1995; Shakeshaft, 1990, as cited in Fullan, 1991).

Teachers who attended training up to an academic degree, in order to deal with the new curriculum, also reported less transformational leadership practices by their leaders. It may be concluded that perhaps the training makes teachers more aware of transformational leadership and raises their expectations. An alternative explanation might be that school leaders are more committed to supporting teachers who had received no training. Hord (1997) noted that “*the literature on educational leadership and school change recognizes clearly the role and influence of the campus administrator (the principal, and sometimes an assistant principal) on whether change will occur in the school. It seems clear that transforming the school organization into a learning community can be done only with the leaders’ sanction and active nurturing of the entire staff’s development as a community.*” (p. 14) Leithwood, et al. (1997, as cited in Hord, 1997) asserts that leadership contributes significantly to school conditions fostering organisational learning processes. School leaders should create conditions for all staff to learn together and participate in decisions about its operation. Petterson, McCarthey and Elmore (1996, as cited in Hord, 1997) found that successful school restructuring involved teachers meeting together as a whole staff or in teams. Leithwood and Riehl (2003) emphasise that effective leaders help the school to become a professional learning community to support the performance of all key workers, including teachers and students.

Teacher development activities (changed teaching practices, teacher learning activities, and teacher commitment) and organisational learning

School leader and teachers responses showed a positive attitude towards a student-centred teaching approach. According to McLaughlin, 1997, p.79 (as cited in Kwakman, 2003, p. 149) “Current theory holds that students learn best when they have the opportunity to actively construct their own knowledge”. However the findings of this study showed that teachers feel comfortable working according to traditional teaching methods. Day and Kington (2008), as cited in Mucavele (2008), asserts that curriculum change affects not only teachers’ work, but also their perceptions about their work, and their emotional identities. Research on school change has shown that altering teacher practice is extremely difficult (Fullan, 2002, as cited in Geijsel, Slegers, Stoel, & Kruger, 2009). Promoting constructivism requires teachers to adopt a new pedagogical approach (Bransford, Brown, & Cocking, 1999, King & Newmann, 2000, McLaughlin, 1997, Putnam & Borko, 2000, as cited in Kwakman, 2003, p. 149). On the other hand constructivist oriented teaching and more traditional direct teaching approaches could be seen as strategies that teachers might effectively apply in a differentiated way (Scheerens et al., 2007, p. 203). D’Agostino, (2000; as cited in Scheerens et al., 2007) found that more teacher centred approaches worked better for students in grades one and two of elementary school, whereas a more student-centred approach worked better in grade four. A hypothetical explanation for teachers’ desire to teach according to traditional methods in Mozambique, a culturally and linguistically heterogeneous developing country, could be cultural contingencies, as referred to by Fuller and Clark (1994, as cited in Scheerens, Glas & Thomas, 2003, p. 253) which comprise, amongst

other aspects the teacher's capacity and preference for mobilising instructional tools, and the degree of consonance between the teacher's pedagogical behaviour and local norms regarding adult authority, didactic instruction and social participation within the school.

In Mozambique, mainly in rural areas, there is traditional authority. According to Lundin and Machava, 1995, and Cuhela, 1996, as cited in Buur & Kyed (2005), "this institution of the community is a reality that manifests itself before the state and its juridical system. They are not created by the Law, but are generated by the respective communities" (p. 11). This institution is based on kinship and hereditary succession (West & Kloek-Jenson, 1999, O'Laughlin 2000, and Alexandra, 1997, as cited in Buur & Kyed, 2005, p. 5) and on "traditional rules of the respective community". According to Buur & Kyed (2005), traditional leadership in Mozambique is seen by some as an impediment to modernisation and democratisation, while others increasingly adopt the communitarian perspective, which held that traditional authority constitutes a genuinely African form of local governance that is inherently democratic. It seems that the style of leadership adopted by traditional authority is unclear. In Mozambique the power distance between individuals at various hierarchical layers is relatively large. The local norms seem to be more in line with more directive leadership.

School leaders and teachers agree that in Mozambique the instruction is still whole-class oriented. The class size in Primary Education in Mozambique is large, the pupil-teacher ratio in 2008 was 73 in EP1 and 41 in EP2 (MEC, 2009; MEC, 2010), which almost precludes a learner-centred approach.

With respect to individual teacher learning activities, teacher commitment, and organisational learning the findings showed positive responses from teachers. As indicated in the conclusions, findings showed that in general the reports on the various facets of transformational leadership are positive for both school leaders and teachers. Perhaps teachers are satisfied with school leader transformational practices in their schools, which can enhance individual teacher learning, teacher commitment and organisational learning. According to Silins and Mulford (2002), teacher satisfaction with the school leadership team is a significant predictor of the extent of teacher involvement and engagement with the school and learning.

Relations between school leader transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development) and changing teaching practices (curriculum implementation)

Concerning relations between school leader transformational practices, organisational learning (professional learning communities), individual teacher learning (teacher professional development), and changing teaching practices (curriculum implementation) the results of this study found that

- (i) School leader transformational practices (e.g. vision and goals, intellectual stimulation, and individualised support) are related to organisational learning. Transformational leadership is important for teachers. This is in keeping with Geijsel, Sleegers, Stoel, and Kruger (2009). Teacher commitment and their participation in professional learning activities increase when they experience transformational leadership practices. Through initiating and identifying vision, school leaders can reinforce the personal and social identification of teachers with the school, clarify the setting of personal goals, and enhance teacher confidence in their ability to change their own practice. To be effective, school leaders need to use a combination of transformational leadership behaviours. *“Effective leaders help the school to become a professional learning community to support the performance of all key workers, including teachers and students”*. (Leithwood & Riehl, 2003, p. 5)
- (ii) Organisational learning (e.g. policy and evaluation, and consensus) shows a relation with individual teacher learning. Organisational learning (e.g. consultation and cooperation among teachers and consensus) was found to be related to changing teaching practices. The processing of knowledge by individuals while solving problems as a collective leads to changes in values, beliefs and norms that result in the development of a unique learning culture (Sillins & Mulford, 2002). Teacher learning is a constructive and socially and culturally situated process. The participation of teachers in a variety of professional activities within the school has influence on both their own professional development and the development of the school and thus makes a significant contribution to improving teaching and learning (Geijsel, Sleegers, Stoel & Kruger, 2009). Professional learning communities provide *“powerful learning that defines good teaching and classroom practice and that creates new knowledge and beliefs about teaching and learners.”* (Hord, 1997, p. 5)
- (iii) School leader transformational practices (e.g. vision and goals) are related to individual teacher learning. School leader transformational practices (e.g. intellectual stimulation) show a relation with changing teaching practices. Transformational leadership has an impact on both organisational and individual learning (Leithwood & Jantzi, 2000; Silins & Mulford, 2002). Transformational leadership is seen as having the potential to change culture of a school and create the conditions for improvement (Bollington, 1999). Higher levels of teacher learning and leadership are more likely to occur when there are transformational practices (Silins & Mulford, 2002).
- (iv) Individual teacher learning was related to organisational learning and changing teaching practices. Organisational learning in “learning organisations” can be defined as the sum total of individual learning of the members of the organisation, i.e., individual staff members keep their knowledge and skills “up-to date” in

“learning by doing” at the workplace; individual learning is converted into organisational learning through co-ordination mechanisms which support communication and collaboration between members of the organisation (Scheerens, Glas, & Thomas, 2003). Teachers gain learning experiences by undertaking various professional development activities and assimilating new knowledge, new skills, and new values, which primarily concern didactic and pedagogical tasks and content matter (Clement, 1995; Clement & Vandenberghe, 2000; in Geijsel, 2001). Instructional improvement requires continuous individual and collective learning (Elmore, 2000, as cited in Mulford, 2003). Bryk et al (1998, as cited in Fullan, 2000, p. 7), found that, in schools which evidenced improvement over time the efforts of school leaders focused, amongst other dimensions, on working to expand the professional capacities of individual teachers, to promote the formation of a coherent professional community toward enhancing the quality of instruction. A focus on the system or the group as a whole in professional learning communities does not mean that individuals should be ignored (Hord, 1997). It is individuals who provide the most effective route for accomplishing systemic change. Individuals change systems, acting separately and together (Fullan, 1994, as cited in Hord, 1997). Teacher learning enhances organisational learning (Silins and Mulford, 2002).

As mentioned above, two school leader characteristics were found to show a positive association with changing teaching practices. These are: having received training in Educational Administration and Management (awarding a certificate) and having occupied a position before becoming principal or vice-principal. Leithwood and Steinbach’s (1991) research found that expert principals have shown clear practices associated with transformational leadership in their solution processes, and Hallinger, Bickman and Davis (1996) report that scholars assert that the values, beliefs, and experiences of principals are salient to understanding how they exercise educational leadership. A skilled and well-supported leadership in schools can help foster a sense of ownership and purpose in the way that teachers approach their job (Mulford, 2003). Louis and Kruse (1995, as cited in Hord, 1997) consider that individuals’ possession of an appropriate cognitive and skill base that enables effective teaching and learning is needed in a productive learning community.

Implications for further study

The results provided by this study showed that the basic aspects of transformational leadership are supported by school leaders and teachers in Mozambique. From the findings some suggestions for further studies are outlined as follows:

There are differences between the self-perceptions of school leaders and the perceptions of teachers concerning school leader transformational practices and educational changes. Mostly school leaders tend to be more positive than teachers. Thus this study made use of school leaders self-reports but relied more on the teacher reports of school

leader behaviour. Difference in perception between teachers and school leaders may itself have an effect on relevant outcome variables and this was taken into account in the analyses. The analyses showed a significant negative association with individual teacher learning to the degree that such differences in perception are larger. Further study should be conducted to understand the factors which cause these differences between the self-perception of school leaders and teachers' perceptions of school leader transformational practices and educational changes.

Despite the limited number of significant effects reported in the above sections, it may be concluded that to control for teacher background (e.g. gender, competence and training in teaching, experience as teacher), and school context (e.g. school level, pupil background and quality of teacher perceived by school leader, number of teachers in the school) in the multilevel analyses, with transformational leadership practices as independent variables, is necessary. Controlling for school leader characteristics (e.g. gender, competence and training in teaching and in leadership and management, experience as principal or vice-principal), and some other relevant teacher characteristics (e.g. concerns about competencies, teachers' desire to teach according to traditional methods) in order to analyse the relations among transformational leadership, organisational learning, individual teacher learning, and changing teaching practices is also required. The variables concerning school context, teacher and school leader background appear require further research and further studies should include other factors such as task orientation, support from provincial and district office, support from school leaders and other supervisors, and task autonomy.

As indicated, despite the fact that school leader and teacher responses showed a positive attitude towards a student-centred teaching approach, the results also showed that teachers feel comfortable working according to traditional teaching methods. Teachers' desire to teach with traditional methods (tried and tested methods) appeared to be positively related to organisational learning, individual teacher learning, and changing teaching practices. A detailed and in-depth study, including cultural contingencies should be conducted to understand the factors which determine the teachers' desire to teach according to traditional methods, including whole-class oriented instruction and its effects on transformational leadership, organisational learning, individual teacher learning and changing teaching practices. Further study should include classroom observation.

The results of this study suggest that transformational leadership is associated with organisational learning, individual teacher learning and changing teaching practices. It was found for example that intellectual stimulation is related to organisational learning and changing teaching practices. Intellectual stimulation entails encouraging staff to reflect on what they are trying to achieve with students and how they are doing it; facilitating opportunities for staff to learn from each other, and modelling continual learning. As indicated, it appears that there is an important role for self-reflection,

evaluation, and performance feedback in schools as learning organisations. Scheerens, Glas, and Thomas (2003) consider that “*the evaluation-feedback-action sequence is a central mechanism for all kinds of learning processes, including so called “organisational learning.”*” (p. 6) For further study the issue of self-reflection, evaluation, and performance feedback should be taken into account to understand its importance for organisational learning, individual teacher learning, and changing teaching practices. To what extent can self-reflection, evaluation, and performance feedback account for organisational learning, individual teacher learning and changing teaching practices?

When discussing the limitations of this study, it was mentioned that the present study was restricted to changed teaching practices (assessed through self-reports). Further study should focus on the association of student learning outcomes with transformational leadership, organisational learning, individual teacher learning, and changing teaching practices.

Recommendations for educational leadership, and for educational policy

This research contributes to further study of educational leadership practices, and educational policy, by examining the association of transformational leadership and organisational learning, individual teacher learning, and changing teaching practices. The implications for further study were presented in the previous section. The following recommendations are outlined for educational leadership and educational policy.

For educational leadership

As mentioned above, the findings of this study showed that transformational leadership accounts for organisational learning, individual teacher learning, and changing teaching practices. The associations of each school leader transformational dimensions with these variables differ. It appears that to be effective school leaders need to use a combination of transformational leadership practices. Educational reform, decentralisation and school improvement may all benefit from transformational leadership, which is described as an approach which supports the development of schools as learning organisations in the way it is expected by Ministry of Education and other stakeholders to improve the quality of education in Mozambique. School leaders should stimulate organisational learning and individual teacher learning for school improvement by working toward whole staff consensus in establishing priorities and communicating these priorities and goals to staff. School leaders should give a sense of overall purpose, by encouraging staff to reflect on what they are trying to achieve with students and how they are doing it. School leaders should facilitate opportunities for staff to learn from each other and model continual learning in their own practice. School leaders should also encourage self-reflection, evaluation and performance feedback in schools and in school clusters (known as Zonas de Influência Pedagógica - ZIP). In a practical sense school evaluation and monitoring are considered as viable levers of school improvement

and perhaps more effective innovation strategy than pro-active planning approaches (Scheerens, Glas, & Thomas, 2003).

For educational policy

As mentioned in the conclusion and discussion sections, there are differences between the self-perceptions of school leaders and the perceptions of teachers concerning school leader transformational practices, and educational changes. From this perspective the system of monitoring and evaluation school processes and performance in Mozambique should be further developed. Evaluation and monitoring are at the core of the model of “learning” organisations that seek to improve their external responsiveness (Scheerens, Glas, & Thomas, 2003). However, self-awareness should be taken into account in attempts to monitor leader behaviour and performance (Awater & Yammarino, 1992).

The class size in Primary Education in Mozambique is a barrier to instruction becoming less whole-class oriented. The strategy to reduce the class size includes, amongst other things, expanding access to the full cycle of Primary Education by building more schools, recruiting, retaining, and the development of teachers and school leaders. It is evident that this strategy requires substantial financial resources and time.

In the present study, two school leader characteristics were found to show a positive association with changing teaching practices, namely, having received training in Educational Administration and Management (awarding a certificate) and having occupied a position of leadership before becoming principal or vice-principal. The issue of recruitment and professional development of school leaders is very important for educational reform, decentralisation and school improvement. The preparation of school administrators is of key importance for teaching and learning improvement in schools (Hipp & Huffman, 2003, as cited in Mulford, 2003). In Mozambique school leader training programs should emphasize competencies related to the new responsibilities assigned to the school leaders by the government aimed at the development of their schools and teachers. Training programs should also emphasise competencies concerning self-reflection, evaluation, and performance feedback.

Both teacher and school leader training programmes should be both pre-service (initial) and in-service. It seems appropriate to consider in-depth to pre-service (initial) training programmes for school leaders. For example in developed countries, available literature shows that school leader training programs are different. Sweden has a long-standing four step approach to principal training: recruitment for those wanting to become principals; induction for those newly appointed; a national programme attended after approximately two years in a post; and continued professional development, which comprise mainly university courses (Johanson, 2001 & 2002, as cited in Mulford, 2003) Hong Kong (Walker et al, 2002, as cited in Mulford, 2003) has a continuing professional development framework for school principals, with separate programmes for aspiring, newly appointed and serving principals.

Pre-service (initial) training programmes for teachers and school leaders could be based in Teacher Training Institutes and in universities. In-service training could take place in schools, in school clusters (so called Zonas de Influência Pedagógica - ZIP), in Teacher Training Institutes, and in universities. Kwakman (2002) supports the idea that *“although the aim of learning is ultimately a change in classroom practice, learning does not only have to be situated in this setting, as powerful learning experiences are gained outside the classroom as well”*. (p.150) Putnam and Borko (2000, as cited in Kwakman, 2002), strongly recommend situating teacher learning in multiple learning settings (in and out of classrooms) in which teacher educators play an important role. Kwakman (2002) indicates that the work context is seen by some authors as the most suitable place, as new teaching competencies can only be acquired in practice. The work context is considered as primarily related to the daily work of teaching (classrooms and schools) but also includes various types of communities (e.g. cross-school professional communities, networks, and school-university partnerships). Kwakman (2002) adheres to the idea that learning at the workplace requires an adequate infrastructure for learning. In Mozambique, school clusters can be seen as cross-school professional communities, in which teachers and school leaders can continuously seek and share learning, and act on their learning. The goal of teachers and school leaders actions is the enhancement of their effectiveness as professionals to benefit their students (Astuto, et. al, 1993, as cited in Hord, 1997).

References

- Atwater, L.E., & Yammarino, F.J. (1992). Does Self-Other agreement on leadership perceptions moderate the validity of leadership and performance predictions? *Personnel Psychology*, 45 (1992). [Online] Available: <http://www.3.interscience.wiley.com/journal/119321785/abstract?CRETRY>
- Atwater, L.E. & Yammarino, F.J. (1997). Self-other rating agreement: A review and model. Research, *Personnel and Human Resource Management*, 15, 121-174.
- Bass, B.M., & Avolio, B.J. (1993). Transformational leadership: A response to critiques. In M.M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 49-80). Academic Press, San Diego, CA.
- Bazo, M. (2002). Design and development process of a competence-based curriculum of Educational administration and management post-graduate program in the Faculty of Education at Universidade Eduardo Mondlane: a needs assessment. Master's thesis. University of Twente. Enschede, the Netherlands.
- Beck, T. (1999). A handbook for an Education and Management Development Programme: *Guidelines for running and sustaining a cascade model programme for developing the management capability of school leaders* – International Institute for Educational Planning. Paris, France.
- Bollington, R. (1999). Leadership. In M. Brundrett (Ed.), *Principles of school leadership* (pp. 153-183). The Old School House. Norfolk: Peter Francis.
- Boyd, V. (1992). *School context: Bridge or Barrier to Change*. Southwest Educational Development Laboratory (SEDL).
- Buur, L., & Kyed, H. M. (2005). State recognition of traditional authority in Mozambique. The Nexus of Community Representation and State Assistance. Discussion paper. Uppsala: Nordiska Afrikainstitutet.
- Chell, J. (1995). Introducing Principals to the Role of Instructional Leadership. A summary of a master's project. SSTA Research Centre Report #95-14.
- Cubillo, L. (1999). Gender and Leadership in the NPQH: an opportunity lost?, *Journal of In-service Education*, 25(3), pp.545-55.
- Cubillo, L., & Brown, M. (2003). Women into educational leadership and management: international differences? *Journal of Educational Administration*, 41(3), 278-291. [Online] Available: <http://www.emeraldinsight.com/journals.htm?issn=0957-8234&volume=41>
- Darling-Hammond, L. (1996). The quiet revolution: Rethinking teacher development. *Educational Leadership*, 53(6), 4-10.
- Davies, B., & Ellison, L.(Eds.). (1997). *School leadership for the 21st Century: a competency and Knowledge approach*. London and New Work: Routledge.
- Fullan, M. (2000). The Role of the Principal in School Reform. [Online] Available: http://home.oise.utoronto.ca/changeforces/Articles_00/11_00htm

References

- Fullan, M. (1991). *The new meaning of educational change*. New York: Teachers College Press.
- Garson, G.D. Reliability Analysis. (copyright 1998, 2008, 2009, 2010). [On-line] Available: <http://faculty.chass.ncsu.edu/garson/PA765/reliab.htm> Last updated 1/30/2010.
- Geijsel, F. (2001). *Schools and Innovations: Conditions fostering the implementation of educational innovations*. Nijmegen University Press, The Netherlands.
- Geijsel, F., Van den Berg, R., & Slegers, P. (1999). The innovative capacity of schools in primary education: a qualitative study. *Qualitative studies in Education*, 12(2), 175-191.
- Geijsel, F.P., Slegers, P.J.C., Stoel, R.D., & Kruger, M.L. (2009). The Effect of Teacher Psychological and School Organizational and Leadership Factors on Teachers' Professional Learning in Dutch Schools, *The Elementary School Journal*, 109(4). Chicago: The University of Chicago Press.
- Gliem, J.A., & Gliem, R.R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. 3003 Midwest Research to Practice Conference in Adult, Continuing, and Community Education. [On-line] Available: <http://scholarworks.iupui.edu>
- Godschalk, V.M., & Sosik, J.J. (2000). Does mentor-protégé agreement on mentor leadership behaviour influence the quality of a mentoring relationship? *Group & Organisation Management*, 25, 291-317.
- Hallinger, P., Bickman, L. & Davis, K. (1996). School Context, Principal Leadership, and Student Reading Achievement, *The Elementary School Journal*, Vol. 96, No. 5 (May, 1996), pp. 527-549. Chicago: The University of Chicago Press.
- Hallinger, P., Bickman, L., & Davis, K. (1990). What makes a difference? School context, principal leadership, and student achievement. Occasional Paper #3. Cambridge, MA: National Center for Educational Leadership, Harvard Graduate School of Education. June, 1990.
- Hedeker, D. (2006). *Multilevel Analysis: An Applied Introduction*. Chicago: University of Illinois. [On-line] Available: <http://www.yic.edu/hedeker/html>
- Hopkins, D., Ainscow, M., & West, M. (1998). *School improvement in era of change. School development series*. Redwood Books, Wiltshire. London: Trowbridge.
- Hord, S.M. (1997). *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*. Texas: SEDL. [On-line] Available: <http://www.sedl.org/change/issues/issues61.html> 5/3/02
- Hord, S.M. (1997). Professional Learning Communities: What Are They and Why Are They Important *Issues About Change*, 6(1). [On-line] Available: <http://www.sedl.org/change/issues/issues61.html> 5/3/02
- International Monetary Found (2004). Republic of Mozambique: Poverty Reduction Strategy. Paper Progress Report (Review of the Economic and Social Plan for 2003) [On-line] Available: <http://www.planipolis.iiep.unesco.org/upload/Mozambique>.

- Instituto Nacional de Estatística (INE) (2006). Total Population By Provinces – 2006. [On-line] Available: http://www.ine.gov.mz/Ingles/o_pais/populacao_total_prov
- Krishnan, V.R. (2003). *Power and moral leadership: role of self-other agreement*. [On-line] Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published>
- Krüger, M., & Witziers, B. (2004). Developments in thinking about leadership. Unpublished paper.
- Kwakman, K. (2002). *Teacher learning throughout the career*. Doctoral dissertation. University of Nijmegen: the Netherlands.
- Kwakman, K. (2003). Factors affecting teachers' participation in professional learning activities. *Teaching and Teacher Education*, 19, 149-170.
- Leithwood, K.A., & Jantzi, D. (2000). The effects of transformational leadership on organisational conditions and student engagement with school. *Journal of Educational Administration*, 38(2), 112-29.
- Leithwood, K.A., Jantzi, D., & Steinbach, R. (1999). *Changing leadership for changing times*. Buckingham: Open University Press.
- Leithwood, K., Tomlinson, D., & Genge, M. (1996). Transformational school leadership. In K. Leithwood, J. Chapman, D. Corson, Ph. Hallinger, & A. Hart (Eds.), *International Handbook of Educational Leadership* (pp. 785-840). Dordrecht: Kluwer Academic Publishers.
- Leithwood, K. (2001). Towards an Evidence Base. Educational Accountability and School Leadership. Centre for Leadership Development. OISE/UT. [On-line] Available: <http://www.bondid.det.nsw.edu.au/documents/ceo/School%20Leadership%20Kenneth%20Leithwood.doc>
- Leithwood, K.A., & Steinbach, R. (1991). Indicators of Transformational Leadership in the Everyday Problem Solving of School Administrators. *Journal of Personnel Evaluation in Education*, 4, 221-244.
- Leithwood, K.A., & Riehl, C. (2003). *What we know about successful school leadership*. Philadelphia, PA: Laboratory for Student Success, Temple University.
- Leithwood, K.A., & Montgomery, D. (1985). *The role of the Principal in School Improvement. Research on Exemplary Schools*. Academic Press, Inc.
- Liontos, L.B. (1992). Transformational Leadership. ERIC Clearinghouse on Educational Management Eugene OR. [On-line] Available: <http://www.vtaide.com/png/ERIC/Transformational-Leadership.html> 09/09/09
- Maamouri, M. (2001). *Comparative Education Review*, 45(3). Chicago: The University of Chicago Press. [Online] Available: <http://www.jstor.org/stable/1188778> 17.04.10
- Marsh, C.J., & Willis, G. (1999). *Curriculum: Alternative Approaches, Ongoing Issues*. Second Edition. Upper Saddle River, N.J.: Prentice-Hall International.
- Middlewood, D., & Burton, N. (2001). *Managing the Curriculum*. London: Sage Publications.

References

- Ministério da Educação e Cultura (2006). Plano Estratégico de Educação e Cultura 2006-2010/11 “Fazer da escola um polo de desenvolvimento consolidando a Moçambicanidade”. Maputo: MEC
- Ministério da Educação e Cultura (2009). Education Statistics. [Online] Available: <http://www.mec.gov.mz/img/documentos/20090224020211.pdf>
- Ministério da Educação e Cultura (2010). Education Statistics. [Online] Available: <http://www.mec.gov.mz/img/documentos/20100319020325.pdf>
- Ministério da Educação (1998). *Education Sector Strategic Plan 1999-2003 “Reviving schools and Expanding Opportunities”*. [Online] Available: <http://www.mined.gov.mz>
- Ministério da Educação (2000). *Education for All: The year 2000 Assessment Report of Mozambique*. [Online] Available: <http://www2.unesco.org/wef/countryreports/mozambique/contents.htm>.
- Ministério da Educação (2003). Plano Estratégico da Educação 2004-2008. Doc. 11 - XXVIII CONCOOR
- Ministério da Educação (2004). Education Sector Strategic Plan II (ESSP II) 2005-2009
- Moolenaar, N. (2010). *Ties with Potencial. Nature, antecedents, and consequences of social networks in school teams*. Amsterdam: Ipskamp Drukkers B.V.
- Mucavele, S. (2008). *Factors influencing the implementation of the new curriculum in Mozambican schools*, PhD thesis, University of Pretoria, Pretoria. [Online] Available: <http://upetd.up.ac.za/thesis/available/etd-04272009-095504/>
- Mulford, B. (2003). School leaders: changing roles and impact on teacher and school effectiveness. A paper commissioned by the Educational and Training Policy Division, OECD, for the Activity Attracting, Developing and Retaining Effective Teachers.
- Mulkeen, A., & Chen, D. (Eds.). (2008). *Teachers for Rural Schools: Experiences in Lesotho, Malawi, Mozambique, Tanzania, and Uganda – African Human Development Series*. Washington: The World Bank
- Najjar, D. (2007). The Chinese Principal Leadership Capacities as Perceived by Master Teachers. *Academic Leadership*. The online journal. Volume 4 – Issue 3. Feb 12, 2007. [Online] Available: http://www.academicleadership.org/emprical_research/The_Chinese_Principal_Leadership_Capacities_as_Perceived_by_Master_Teachers.shtml
- Nakala, L. (2009). Case study: Distribution of materials in the IAP in service teacher training distance education course (7+3) in Mozambique. www.col.org/worldreview/volume6.htm
- Nguni, S.C. (2005). *Transformational Leadership in Tanzanian Education. A Study of the effects of Transformational Leadership on Teachers’ Job Satisfaction, Organizational Commitment and Organizational Citizenship in Tanzanian Primary and Secondary Schools*. Nijmegen: Drukkerij Quickprint BV
- Nguni, S., Slegers, P., & Denessen, E. (2006). Transformational and Transactional Leadership Effects on Teachers’ Job Satisfaction, Organisational Commitment,

- and Organisational Citizenship Behavior in Primary Schools: The Tanzanian case. *School Effectiveness and School Improvement*, 17(2), 145-147.
- Nhavoto, N. (2004). Finnish Support to the Education Sector. In R. Sack, M. Cross & J. Moulton (Consultant), *Evaluation of Finnish Education Sector Development Cooperation* (pp.82-98). Helsinki: Hakapaino. [Online] Available: <http://global.finland.fi/evaluations>.
- Nhavoto, A., Buendia, M., & Bazo, M. (2009). Direcção e gestão de escolas: promovendo processos de mudança e formação de direcções de escola. Maputo: MEC.
- Passos, A.F. (2009). *A comparative analysis of teacher competence and effect on pupil performance in upper primary schools in Mozambique and other Sacmeq countries*. PhD thesis, University of Pretoria. [Online] Available: <http://upetd.up.ac.za/thesis/available/etd-09242009-235334/>
- Passos, A., Nahara, T. Magaia, F., & Lauchande, C. (2005). The SACMEQ II Project in Mozambique: A study of the conditions of schooling and the quality of education. Harare: SACMEQ. [Online] Available: <http://www.sacmeq.org/education-mozambique.htm>
- Saunders, L. (2000). Effective Schooling in Rural Africa. Report 2. Key issues concerning school effectiveness and improvement. Education. The World Bank. [Online] Available: <http://www.siteresources.worldbank.org>
- Scheerens, J., Luyten, H., Steen, R., & Luyten-de Thouars, Y. (2007). *Review and Meta-Analyses of School and Teaching Effectiveness*. Enschede: University of Twente. [Online] Available: <http://www.iqb.hu-berlin.de/lehre/dateien/rapportScheerens.pdf>
- Scheerens, J., Glas, C., & Thomas, S. M. (2003). *Educational Evaluation, Assessment, and Monitoring. A Systemic Approach*. Lisse: Swets & Zeitlinger publishers.
- Sheppard, B. (2003). Leadership, Organisational Learning, and the Successful Integration of Information and Communication Technology in Teaching and Learning. Memorial University of Newfoundland. Avalon West School Board. Calgary: University of Calgary Press. [Online] Available: <http://www.ucalgary.ca/iejll/sheppard>
- Shukla, M. (1999). *Competing through knowledge: building organisation: Architecture of a Learning Organisation*. New Delhi: Response (Sage).
- Silins, H.C., Mulford, W.R., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.
- Silins, H., & Mulford, B. (2002). Schools as learning organisations. The case for system, teacher and student learning. *Journal of Educational Administration*, 40(5), 425-446.
- Slegers, P., Bolhuis, S., & Geijsel, F. (2005). School improvement within a knowledge economy: Fostering professional learning from a multidimensional perspective. In N. Bascia, A. Cumming, A. Dathow, K. Leithwood, & D. Linvingstone (Eds.), *International handbook of educational policy* (pp. 527-543). Dordrecht, the Netherlands: Kluwer.

References

- Snijders, T.A.B., & Bosker, R.J. (1999). *Multilevel Analysis. An introduction to basic and advanced multilevel modeling*. London: SAGE Publications.
- Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) (2009). Education in Mozambique. [Online] Available: <http://www.sacmeq.org/education-mozambique.htm>
- Southworth, G. (1998). *Leading Improving Primary Schools*. London: Falmer Press.
- Takala, T. (2004). Contribution of the sector-wide approach to improvement of the quality of basic education in Mozambique. Background paper prepared for the 2005 Education for All Monitoring Report, 22.4.2004.
- Ten Bruggencate, G., Luyten, H., & Slegers, P. (2009). Do school leaders make a difference? The influence of school leaders on academic performance in Dutch secondary schools.
- Thoonen, E.E.J., & Moolenaar, N.M. (2009). Self-Other Agreement on Transformational School Leadership: Perceptual Differences between Teacher and Principal related to the Organizational Context. Individual paper for the European Association for Research on Learning and Instruction, Amsterdam, The Netherlands, 25-28 August 2009.
- Toole, J.C., & Louis, K.S. (2000). The role of professional learning communities in international Education. In K. Leithwood & P. Hallinger (Eds.), *The second international handbook of educational leadership* (pp. 245-279). Dordrecht, Neth.: Kluwer.
- Van den Akker, J. (2003). Curriculum Perspectives: An Introduction. In J. van den Akker et al. (eds.), *Curriculum Landscapes and Trends* (pp. 1-10). Dordrecht: Kluwer Academic Publishers.
- Van der Lijn, J. (2006). Walking the Tightrope: do UN peacekeeping operations actually contribute to durable peace? Amsterdam: Rozenberg Publisher [Online] Available: <http://books.google.co.mz>
- Van Woerkom, M. (2003). *Critical reflection at work: Bridging individual and organisational learning*. Enschede, the Netherlands: Twente University.
- Vilsteren, C.A. van (1999). Leadership in Schools. In A. J. Visscher (Ed.), *Managing schools towards high performance and linking school management theory to the school effectiveness knowledge base* (pp.163-212). Lisse: Swets & Zeitlinger.
- Visscher, A. J.(Ed.).(1999). *Managing schools towards high performance and linking school management theory to the school effectiveness knowledge base*. Lisse: Swets & Zeitlinger.
- Visscher, A. J. & Witziers, B. (2004) Subject department as professional communities? *British Educational Research Journal*, 30(6), 785-800.
- Whittington, J.L., Coker, R., Goodwin, V., Ickes, W., & Murray, B. (2009). Transactional Leadership Revised: Self-Other Agreement and Its Consequences. *Journal of Applied Social Psychology*, 39(8), 1860-1886(27).
- Yammarino, F.J., & Atwater, L.E. (1997). Do managers see themselves as others see them? Implications of self-other rating agreement for human resources management. *Organizational Dynamics*, 25(4), 35-45.

- Young, G.L (1995). *Conducting Needs Assessments*. College Quarterly, winter 95.
[Online] Available:
<http://www.senecac.on.ca/quarterly/CQ.html/HHH.034.CQSpr.95.Young.html>.
- Yu, H., Leithwood, K., & Jantzi, D. (2002). The effects of transformational leadership on teachers' commitment to change in Hong Kong. *Journal of Educational Administration*, 40 (4), 368-389.
- Yu, G. (2007). Research evidence of school effectiveness in Sub-Saharan Africa. Edqual working paper. Effectiveness no. 2. EdQual. A Research Programme Consortium on Implementing Education Quality in Low Income Countries.
[Online] Available:
<http://www.edqual.org/edqual.../workingpapereffectiveness02.pdf>

References

Summary

Context

In Mozambique the reform of the National Education System takes place through the de-centralisation, privatisation, and reorganisation of teacher training, revitalisation of Zones of Pedagogical Influences (ZIP's), creation of community schools, creation of capacity for intervention and support at the level of District Directorates, and curricular changes to include more relevant areas and teaching methods. The objective of educational reform which includes the decentralisation and curriculum reform is to make local bodies and schools more autonomous and increasingly responsible for formulating and implementing programmes. The decentralisation aims to create an atmosphere which is conducive to a more effective intervention of social partners such as the local government partners, community members, civil society, national and international organisations. Curriculum reform aims to create an environment that is conducive to a more learner centred approach and which improves the quality of education (MEC, 2006).

Decentralisation brings many new roles and tasks for school leaders. Mozambican school leaders are being asked to take on unfamiliar tasks including curriculum development and to create a climate supportive of innovation and collaboration in their schools as well as to provide supplementary “on the job” training for their teachers, through classroom observation and subsequent discussion (MinEd, 1998). Schools are expected to become learning organisations, and transformational leadership practices are seen as having the potential to change a school's culture and create the conditions for improvement. It is unknown, however, whether school leaders take on these new responsibilities. The first question in this dissertation addresses this problem. Another important question is why school leaders do (not) take on these new roles. It is assumed, amongst others by the MinEd, that a large variation exists among school leaders' responses to these new roles. An interesting question then is to find out which factors appear to be responsible for this variation in school leaders' behaviour. Another research question deals with the impact of school leaders' behaviour. If school leaders exhibit behaviours aimed at school change and teacher professional development to improve organisational learning, individual teacher learning and teaching practices, is there actually evidence for improved organisational learning, individual teacher learning and teaching practices in Mozambican schools?

Aims of the study, general expectations, and research questions

Aims of the study

This study aims is to make a scientific contribution to the current knowledge about transformational leadership and its “effects” on school transformation towards learning

Summary

organisations and on school and individual teacher learning to continuously improve their performance, by examining the association between transformational leadership, organisational learning, individual teacher learning, and changing teaching practices.

General expectations

In the present study it was expected that school leader characteristics, school context, teacher background and other relevant teacher characteristics (e.g. teachers concerns about competencies and teachers' desire to teach according to traditional methods) are related to school leaders' transformational practices; school leaders' transformational practices are associated with organisational learning, individual teacher learning, and changing teaching practices; organisational learning has a relation with individual teacher learning and changing teaching practices; individual teacher learning is related to organisational learning and changing teaching practices.

Research questions

1. To what extent do school leaders take on the new responsibilities (school leaders' transformational practices) assigned to them by the Government aimed at developing their schools and teachers (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation)? To what extent do teachers and school leaders degree or disagree in their ratings of leadership activities at school? (principals and vice-principals within schools; teachers within schools, and school leaders and teachers within schools)
2. Which factors can account for variation in school leadership activities? Several variables were considered to account for the variation in school leaders' transformational practices (vision and goals, culture, structure, intellectual stimulation, individualized support, and performance expectation), these are: school context (e.g. province, urban/rural, perceived pupils' background by school leaders, number of teachers in the school, perceived quality of teachers by school leaders, and number of formal leaders present in the school); school leader characteristics (e.g. specialisation, experience as principal or vice principal, gender, academic qualification, training topics in Educational Administration and Management, nature/type of training, number of trainings, and position fulfilled before becoming principal or vice-principal); teacher background (e.g. specialisation, experience as teacher, gender, academic qualification, number of shifts in which teachers are teaching, nature/type of education/training to deal with the new curriculum, and number of trainings); and some other relevant teacher characteristics (e.g. concerns about competencies and teachers' desire to teach according to traditional methods).
3. To what extent have teaching practices changed and to what extent do teachers develop themselves and learn as a team, according to school leaders and teachers? To what extent do teachers and school leaders degree or disagree in their ratings of teaching practices (principals and vice-principals within schools; teachers within schools, and school leaders and teachers within schools)

4. To what extent can transformational leadership account for organisational learning, individual teacher learning, and changed teaching practices?

Methods

The research questions and hypothesis were addressed by means of quantitative research methods. Surveys and closed-ended questionnaires were used to gather standardized information on transformational leadership, organisational learning, individual teacher learning, and changing teaching practices from a large number of teachers and school leaders. In the present study 101 primary public schools were asked to participate in 5 provinces namely Maputo-City, Maputo-Province, Zambézia, Nampula, and Cabo Delgado. This study involved a total of 169 school leaders (principals and vice-principals), and 518 teachers from 95 schools of the 101 schools of EP1 and EP2 asked to participate. An individual questionnaire was administered to an average of 2 school leaders (principals and vice-principals) and another one to an average of 5 teachers at each of 95 participating schools.

Data from the questionnaires were entered in SPSS to explore descriptive statistics, conduct reliability analyses and multilevel analyses. The closed-ended questions as well as all open-ended questions that allowed categorisation were coded into categories. The variables related to backgrounds of participating schools, school leaders, and teachers were used as independent or explanatory variables to explain their possible association with school leaders' transformational practices (dependent variables). Then school leaders' transformational practices were used as independent variables to explain their association with organisational learning, individual teacher learning, and changing teaching practices (dependent variables), controlling for school context, school leaders' characteristics, teacher background and other relevant teacher characteristics.

Results

Background characteristics of the respondents and organisational units of participating provinces and schools

Findings concerning the background characteristics of the respondents and organisational units of participating provinces and schools indicate that with regard to school leader and teacher characteristics, only a limited number of differences between provinces or between females and males were found. The majority of school leaders and teachers have received teacher training. Concerning academic qualifications Maputo-City presents more school leaders and teachers with higher education qualifications than other provinces. The teachers sample is representative with respect to their academic qualifications and professional training (teacher training).

School leaders' transformational practices and educational changes

Summary

Concerning the extent to which school leaders undertake transformational leadership practices results show that school leaders and teachers report that they carry out the actions expected from them, given the reform policy. Findings also indicate that school leaders as well as teachers are feeling comfortable to deal with educational changes in the field of curriculum and teaching. However, the responses indicate more concerns among teachers than among school leaders. Both school leaders and teachers report that the main aspects of transformational leadership are realized in primary education in Mozambique. In general there is a moderate degree of agreement among school leaders and among teachers within schools on school leaders' transformational practices, educational changes, and other variables. The findings revealed a number of differences between school leaders' self-perception and teachers' perception concerning school leaders' transformational practices. School leaders support the different dimensions of transformational leadership stronger than teachers.

Variation in school leadership

Regarding the factors that account for variation in school leadership activities, a limited number of significant effects of school context, school leader and teacher background on transformational leadership activities were found. The school context variables that show a significant association with school leaders' transformational practices are province, pupils' background and quality of teachers both as perceived by school leaders, number of teachers existing in the school, and school location (urban/rural). Only two school leader background characteristics (general education and gender), and only one teacher background variable (training up to an academic degree attended by teachers, in order to deal with the new curriculum) are related to school leaders' transformational practices.

School context variables such as school level, ratio pupils teacher, and number of formal leaders existing in the school show no association with school leaders' transformational practices. School leader background characteristics namely experience as principal or vice-principal, academic qualifications, training topics in EAM, nature/type of training, number of types of training in EAM, and having occupied a coordinating position before becoming principal or vice-principal have no association with school leaders' transformational practices. Teacher background characteristics such as specialisation (professional training in teaching that leads to an academic degree), experience as teacher, gender, academic qualifications, and number of shifts in which teachers work also show no association with school leaders' transformational practices. Other teacher characteristics that are not related to school leaders' transformational practices are training awarding a certificate, upgrading course without certification, workshop or seminar, and number of types of training attended by teacher in order to deal with the new curriculum.

Teacher development activities (changed teaching practices, teacher learning activities, and teacher commitment) and organisational learning

Concerning the extent to which teachers changed teaching practices despite the finding that school leaders and teachers responses show a positive attitude towards a student centred teaching approach, the findings also show that teachers feel comfortable working according to traditional teaching methods. School leaders and teachers report little support for the idea of less whole-class oriented instruction. The findings illustrate that the teachers' instruction is still whole-class oriented. Regarding the extent to which teachers develop themselves and learn as a team, teachers report positively on their own learning activities, commitment, and on organizational learning.

Relations between school leaders, transformational practices, organisational learning, individual teacher learning, and changing teaching practices

In the analyses related to the extent to which transformational leadership can account for organisational learning, individual teacher learning and changed teaching practices there is a focus on teacher reports and on differences between teachers and school leaders' reports on school leaders' transformational practices. In the present study the teachers' responses are considered most relevant, because the dependent variables (e.g. changed teaching practices, individual teacher learning, and organisational learning) are related to teachers behaviour. This study also takes into account that differences in perception between teacher and school leaders may in itself have an effect on relevant outcome variables. For each school an average of school leaders responses was calculated, and then the difference between these scores and teachers responses was computed. These differences are used as covariates in analyses with organisational learning, individual teacher learning and changed teaching practices as dependent variables. This study reports descriptive statistics showing teachers being either more or less positive than school leaders on school leaders' transformational practices.

Associations between school leaders' transformational practices and organisational learning

The findings concerning the associations between school leaders' transformational practices and organisational learning reveal that vision and goals, intellectual stimulation, and individualized support are the most important school leaders' transformational practices. When individual teacher learning is included in the analysis as an additional covariate, it is positively related to organisational learning. Teachers' desire to teach with traditional methods has a small positive association with organisational learning.

Association between school leaders' transformational practices and individual teacher learning

In the association between school leaders' transformational practices and individual teacher learning, vision and goals come out as the facets of transformational leadership that do indicate an association with individual teacher learning. Two organisational learning dimensions namely policy and evaluation, and consensus are positively

Summary

associated with individual teacher learning. Teachers' desire to teach with traditional methods is also positively associated with individual teacher learning activities.

Association between school leaders' transformational leadership and changing teaching practices

Intellectual stimulation is the school leaders' transformational practice which shows a positive association with changing teaching practices. Individual teacher learning and organisational learning dimensions (e.g. consultation and cooperation among teachers, and consensus) included as additional covariates also show a positive association with changing teaching practices. Results indicate that individual teacher learning seems to be more important than organisational learning in the association with changing teaching practices. Teachers' desire to teach with traditional methods is positively associated with changing teaching practices.

Conclusions

This study contributes to further study on educational leadership practices, and educational policy by examining the association between transformational leadership, organisational learning, individual teacher learning, and changing teaching practices taking into account school context, school leaders' characteristics, teacher background, and other relevant teacher characteristics. Despite the fact that both school leaders and teachers report that the main aspects of transformational leadership are realized in primary education in Mozambique and teachers are changing their teaching practices, the difference between school leaders self perception and teachers' perceptions on school leaders' transformational practices, and the difference between teachers self perception and school leaders' perceptions concerning teaching practices suggest the need of self-reflection, evaluation, and performance feedback in schools. The system of monitoring and evaluation school performance in Mozambique should be further developed.

Dutch Summary

Context

De recente hervorming van het nationale onderwijsstelsel in Mozambique heeft betrekking op tal van aspecten, waaronder decentralisatie, curriculumherziening en vernieuwingen op het gebied van de lerarenopleidingen. Het voornaamste doel van de onderwijshervorming is het vergroten van de autonomie voor scholen en lokale overheden. Een belangrijk doel van de curriculumherziening is het creëren van een school- en leeromgeving die ruimte biedt voor een meer leerling-gerichte aanpak en de kwaliteit van het onderwijs in algemene zin bevordert.

Decentralisatie impliceert ook veranderingen in de taken die schoolleiders geacht worden te vervullen. Van schoolleiders in Mozambique wordt nu gevraagd om nieuwe taken op zich te nemen zoals curriculumontwikkeling, bevordering van een schoolklimaat dat onderwijsvernieuwing en onderlinge samenwerking in hun scholen ondersteunt en ook het stimuleren van “leren op de werkplek” door leerkrachten aan de hand van lesobservaties en daaropvolgende besprekingen. Van scholen wordt verwacht dat ze zich ontwikkelen tot lerende organisaties. Transformationeel leiderschap wordt gezien als een mogelijkheid tot cultuurombuiging en het creëren van voorwaarden die tot onderwijsverbetering kunnen leiden. Het is echter niet duidelijk in hoeverre de schoolleiders hun nieuwe verantwoordelijkheden in praktijk brengen. De eerste onderzoeksvraag die in dit proefschrift behandeld wordt heeft hierop betrekking. Een tweede belangrijke vraag betreft de factoren die samenhangen met de mate waarin schoolleiders hun nieuwe verantwoordelijkheden in praktijk brengen. De indruk bestaat (onder andere bij het ministerie van onderwijs in Mozambique) dat er sprake is van grote verschillen tussen schoolleiders in de uitvoering van hun nieuwe taken. Een volgende onderzoeksvraag heeft betrekking op de effecten het schoolleidergedrag. Wordt in scholen waar sprake is van transformationeel leiderschap ook beter lesgegeven? En is daar ook meer sprake van schoolontwikkeling en individuele ontwikkeling bij de leerkrachten?

Doel van het onderzoek, verwachtingen en onderzoeksvragen

Doel en verwachtingen van het onderzoek

Dit proefschrift beoogt een bijdrage te leveren aan de wetenschappelijke kennis over transformationeel leiderschap en de effecten daarvan op de ontwikkeling van scholen als lerende organisaties en op de professionele ontwikkeling van individuele leerkrachten.

De verwachting bij aanvang van dit onderzoek was dat de analyses een samenhang zouden laten zien van de schoolcontext en achtergrondkenmerken van de schoolleiders en leerkrachten (waaronder ook eventuele voorkeuren voor traditionele lesmethoden en twijfels aan de mogelijkheden een meer innovatieve aanpak toe te passen) met de mate van transformationeel leiderschap. Verder werd verwacht dat een verband zou worden vastgesteld tussen transformationeel leiderschap, schoolontwikkeling, individuele ontwikkeling van leerkrachten en de toepassing van innovatieve, meer leerling-gerichte lesmethoden. Tenslotte werd een samenhang verondersteld tussen schoolontwikkeling, individuele ontwikkeling van leerkrachten en de toepassing van innovatieve lesmethoden.

Onderzoeksvragen

1. In hoeverre brengen schoolleiders hun nieuwe verantwoordelijkheden (transformationeel leiderschap) in praktijk? In hoeverre is er binnen scholen overeenstemming tussen leerkrachten en schoolleiders in hun percepties over diverse aspecten van transformationeel leiderschap?
2. Welke factoren vertonen een samenhang met diverse aspecten van transformationeel leiderschap? De samenhang met diverse variabelen is onderzocht. Deze hebben betrekking op de schoolcontext (bijv. verstedelijking, samenstelling van de schoolpopulatie, omvang van de school), achtergrondkenmerken van de schoolleiders (bijv. sekse, opleiding, professionele ervaring), achtergrondkenmerken van leerkrachten en andere mogelijk relevante variabelen (bijv. een voorkeur van leerkrachten voor traditionele lesmethoden en twijfels aan de mogelijkheden voor een meer innovatieve aanpak toe te passen).
3. In hoeverre worden nieuwe, meer innovatie en meer leerling-gerichte onderwijsmethoden toegepast en hoeverre is sprake van schoolontwikkeling en individuele ontwikkeling bij leerkrachten? In hoeverre komen de percepties van leerkrachten en schoolleiders binnen scholen in dit opzicht met elkaar overeen?
4. In hoeverre is er sprake van een samenhang tussen transformationeel leiderschap, schoolontwikkeling, individuele ontwikkeling en veranderde lesmethoden?

Methode

Door middel van schriftelijke enquêtes onder schoolleiders en leerkrachten zijn de data verzameld om de onderzoeksvragen te beantwoorden. In totaal zijn 101 basisscholen gevraagd om hun medewerking te verlenen aan dit onderzoek. Deze zijn verspreid over vijf provincies in Mozambique (Cabo Delgado, Nampula, Zambezia, Maputo en Maputo-stad). De verzamelde data zijn afkomstig van 169 schoolleiders en adjunct-schoolleiders en 518 leerkrachten van 95 van de 101 benaderde scholen.

De data zijn gebruikt voor statistische analyses van beschrijvende aard (berekening van frequentieverdelingen, gemiddelden en standaarddeviaties), voor betrouwbaarheidsanalyses en meerniveau analyses. De variabelen die betrekking hebben op de schoolcontext en achtergrondkenmerken van leerkrachten en schoolleiders dienden in de eerste meerniveau analyses als onafhankelijke variabelen en de variabelen die betrekking hebben op diverse aspecten van transformationeel leiderschap als afhankelijke variabelen. In vervolganalyses fungeerden aspecten van transformationeel leiderschap als onafhankelijke variabelen om variatie in schoolontwikkeling, individuele ontwikkeling bij leerkrachten en veranderde onderwijsmethoden te verklaren, waarbij schoolcontext en diverse schoolleider- en leerkrachtkenmerken als controlevariabelen dienden.

Resultaten

Context en achtergrondkenmerken

Tussen provincies zijn slechts weinig verschillen gevonden in achtergrondkenmerken van de respondenten. In Maputo-stad ligt het opleidingsniveau van de schoolleiders en leerkrachten iets hoger dan in de overige provincies. Een vergelijking met populatiegegevens laat zien dat de steekproef van leerkrachten representatief is wat betreft algemeen opleidingsniveau en specifieke onderwijstraining.

Transformationeel leiderschap en veranderde onderwijsmethodes

Zowel schoolleiders als leerkrachten hebben in de enquêtes aangegeven dat ze de activiteiten in praktijk brengen die van hen verwacht worden onder het huidige onderwijsbeleid. Leerkrachten en schoolleiders voelen zich voldoende toegerust om de onderwijsvernieuwingen met betrekking tot curriculum en lesmethodes in praktijk te brengen. Daarbij moet worden aangetekend dat de leerkrachten wat meer twijfels rapporteren dan de schoolleiders. Beide groepen respondenten (leerkrachten en schoolleiders) geven aan dat de belangrijkste aspecten van transformationeel leiderschap worden gerealiseerd in het basisonderwijs in Mozambique. Tussen schoolleiders binnen scholen is meestal sprake van een redelijke mate van overeenstemming als het gaat om de gerapporteerde aspecten van transformationeel leiderschap, veranderde onderwijsmethodes en enkele andere variabelen. Dat geldt ook voor leerkrachten binnen scholen. Wel is gebleken dat de zelfpercepties van de schoolleiders en de percepties van leerkrachten binnen scholen wat betreft transformationeel leiderschap nauwelijks met elkaar samenhangen. Gemiddeld genomen zijn schoolleiders ook iets positiever dan leerkrachten over de mate waarin transformationeel leiderschap gerealiseerd wordt. In het verdere onderzoek is de meeste aandacht besteed aan transformationeel leiderschap zoals dat door de leerkrachten is gepercipieerd.

Variatie in schoolleiderschap

Slechts een beperkt aantal kenmerken met betrekking tot de achtergrond van leerkrachten, schoolleiders en de schoolcontext vertoont een samenhang met de mate waarin transformationeel leiderschap is gerealiseerd. De contextvariabelen die een samenhang laten zien zijn provincie, locatie (stedelijk/platteland), omvang van de school (aantal leerkrachten), achtergronden van de leerlingen en kwaliteit van de leerkrachten (beiden gebaseerd op percepties van de schoolleiders). Slechts twee achtergrondkenmerken van schoolleiders (algemeen opleidingsniveau en sekse) en één leerkrachtkenmerk (specifieke onderwijstraining) vertonen een samenhang met gepercipieerd transformationeel leiderschap.

Tal van andere context- en achtergrondkenmerken (o.a. ratio leerling-leerkracht, ervaring als schoolleider of leerkracht, opleidingsniveau) laten geen samenhang zien.

Professionele ontwikkeling en veranderde lesmethoden

Hoewel schoolleiders en leerkrachten een positieve attitude rapporteren ten aanzien van een meer leerling-gerichte benadering, blijkt uit de resultaten ook dat men hecht aan traditionele lesmethoden. Met name de steun om minder klassikaal les te geven is beperkt. Uit de enquêtes komt naar voren dat het onderwijs nog vaak neerkomt op frontaal lesgeven. De leerkrachten rapporteren wel een sterke mate van betrokkenheid, schoolontwikkeling en individuele ontwikkeling.

Samenhang tussen transformationeel leiderschap en schoolontwikkeling

Bepaalde aspecten van transformationeel leiderschap blijken in dit verband het meest belangrijk (visie en doelstellingen; intellectuele stimulering; geïndividualiseerde ondersteuning). Wanneer individuele ontwikkeling als een controlevariabele wordt meegenomen in de analyse vertoont deze ook een positieve samenhang met schoolontwikkeling. Een voorkeur om gebruik te maken van traditionele lesmethoden laat ook een licht positieve samenhang zien met schoolontwikkeling.

Samenhang tussen transformationeel leiderschap en individuele ontwikkeling

In dit verband is visie and doelstellingen het belangrijkste aspect van transformationeel leiderschap. Twee aspecten van schoolontwikkeling (beleid en evaluatie; consensus) laten een positieve samenhang zien met individuele ontwikkeling. Ook voor individuele ontwikkeling is een positieve samenhang gevonden met een voorkeur voor traditionele lesmethoden.

Samenhang tussen transformationeel leiderschap en veranderde onderwijsmethoden

Intellectuele stimulering laat als aspect van transformationeel leiderschap een positieve samenhang zien met veranderde onderwijsmethoden. Aspecten van individuele ontwikkeling en schoolontwikkeling laten, wanneer ze als controlevariabele worden meegenomen, eveneens een positieve samenhang zien. Het gaat dan om overleg en samenwerking tussen leerkrachten en consensus. De resultaten geven aan dat individuele ontwikkeling belangrijker is dan schoolontwikkeling. Ook voor veranderde

lesmethoden is sprake van een positieve samenhang met een voorkeur voor traditionele lesmethoden.

Conclusies

In dit proefschrift is verslag gedaan van een onderzoek naar de het verband van transformationeel leiderschap met schoolontwikkeling, individuele ontwikkeling van leerkrachten en veranderde onderwijsmethodes in het basisonderwijs in Mozambique. Daarbij is in de analyses gecontroleerd voor schoolcontext, achtergrondkenmerken van schoolleiders en leerkrachten en een aantal andere variabelen. Hoewel schoolleiders en leerkrachten aangeven dat de belangrijkste aspecten van transformationeel leiderschap gerealiseerd worden en dat de toegepaste onderwijsmethoden veranderen, suggereren de verschillen binnen scholen in perceptie tussen schoolleiders en leerkrachten dat er nog veel te winnen valt op het punt van (zelf-)evaluatie, reflectie, monitoring en performance feedback.

APPENDICES

Appendix A1: Questionnaire School Leaders

SECTION 1: BASIC INFORMATION ON THE INTERVIEWEE:

1.1 Name of the school:			
1.2 Level:	EP1	EP2	EP1+EP2

1.3 City:		1.4 Province:	
------------------	--	----------------------	--

1.5 Function:		Since (year):	
1.6 Sex:	Male	Female	
1.7 Approximate age:			
Less than 25	25-35	36-45	Over 55

1.8 What qualifications do you have?				
Secondary education	Bachelors	Licenciatura	Master's	PhD

1.9 What is your specialisation?

1.10 Did you receive any education/training in the area of Educational Administration and Management (EAM)?	Yes	No
1.11 If yes, which topics?		

1.12 What sort of education/training did you receive?	
• Programme that leads to an academic degree	
• Post-graduation programme	
• Programme that awards a certificate	
• Upgrading (in-service) course (without certification)	
• Workshop or seminar	
• Others (specify):	

1.13 Before becoming a principal did you fulfil another management position?	Yes	No
1.14 If yes what?		

SECTION 2: BASIC INFORMATION ON THE SCHOOL

2.1 School Size (number of pupils)					
2.2 Type of students: How do you perceive the student composition of your school:	Most of pupils are from poor background	Most student have middle class background		Most come from privileged families	
2.3 Number of teachers:			2.4 Pupils/teacher ratio:		
2.5 Perceived teacher quality: How do you perceive the quality of your teacher body:	Very poor	Poor	Moderate	Good	Very good

2.6 How many formal leaders do exist in your school?	
Function	Number
• Vice-principal	
• Area Co-ordinator	
• Cycle Co-ordinator	

2.7 How many persons in your school with experience in EAM?	
Sort of experience	Number
• Minister	
• Vice-Minister	
• National Director	
• Central Head Department	
• Provincial Director	
• Head Department	
• District Director	
• ZIP Co-ordinator	
• Principal	
• Vice-principal	
• Area Co-ordinator	
• Cycle Co-ordinator	
• Others (specify):	

SECTION 3: EDUCATIONAL CHANGES

By the end of 1992 a decision was made to reform fundamentally the National Education System of Mozambique through means of de-centralisation, privatisation, and reorganisation of teacher training. At the school level, for example, school directors are expected to take on previously unfamiliar tasks including curriculum development and teacher training. A new curriculum has been developed for primary schools that provides for the use of mother tongue instruction in the early grades, with later transition to the National Language, and the inclusion of local content particular to the needs of each region of the country. There are the demands that the curriculum places on learners and teachers. But currently, instruction tends to focus on the teacher rather than the learner, and thus gives pupils limited opportunity to apply and reflect on concepts.

Please tick (✓) your response/answer in the appropriate box.

3.1 CONCERNS ABOUT COMPETENCIES	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
1. I worry about the rate of change in the field of curriculum and teaching.	1	2	3	4	5		
2. I wish everything with regard to curriculum and teaching would carry on the same way as much as possible.	1	2	3	4	5		
3. I consider myself capable of dealing with all changes in the field of curriculum and teaching.	1	2	3	4	5		
4. The current flow of curriculum and teaching innovations is a challenge for me as a principal or vice-principal.	1	2	3	4	5		
5. All these changes and curriculum and teaching innovations make me feel like I am losing control of my profession as a principal or vice-principal.	1	2	3	4	5		
6. Because of all the changes in the field of curriculum and teaching at the time I don't know where I am as a principal or vice-principal.	1	2	3	4	5		
7. Because of all the changes in curriculum and teaching at the time I increasingly doubt my capacity to practice my profession.	1	2	3	4	5		
8. Because of all the changes in curriculum and teaching at the time I feel left to my own devices.	1	2	3	4	5		
9. Because of all the educational developments in the field of curriculum and teaching I no longer know what teaching should be about.	1	2	3	4	5		

N/O: no opinion

Appendices

3.2 VALUES	Classification					N/O	Comments
	Not important	Little important	In between	Important	Very important		
TASK ORIENTATION: <i>How important are the following tasks?</i>							
1. Working on improving curriculum.	1	2	3	4	5		
2. Taking care of money.	1	2	3	4	5		
3. Prepare information for the school boarder or district office.	1	2	3	4	5		
4. Introduce new educational ideas.	1	2	3	4	5		
5. Taking care of financial resources.	1	2	3	4	5		
6. Helping students mentoring.	1	2	3	4	5		
7. Helping to create an orderly and task-oriented atmosphere.	1	2	3	4	5		
8. Taking care of the building.	1	2	3	4	5		
9. Taking care of teacher training.	1	2	3	4	5		
10. Write letters.	1	2	3	4	5		
11. Taking care of the administration.	1	2	3	4	5		
12. Coordinating education.	1	2	3	4	5		
13. Scheduling.	1	2	3	4	5		
14. Coaching individual teachers.	1	2	3	4	5		
15. Carrying out observations in the classroom.	1	2	3	4	5		
VALUES: <i>the extent to which principals agree with teaching approach</i>	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
1. A student centred approach is valuable in the Mozambican school context.	1	2	3	4	5		
2. I agree with the approach of instruction less whole-class oriented.	1	2	3	4	5		
3. I agree with the on task teaching approach.	1	2	3	4	5		
4. I agree with the on task teaching approach involving small-scale research.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
5. I agree with the use of practical examples in lessons.	1	2	3	4	5		
6. I agree with the approach of independent learning.	1	2	3	4	5		
7. I agree with the use of more varied teaching methods and instructional formats.	1	2	3	4	5		
8. I agree with the use more varied teaching materials.	1	2	3	4	5		
9. I agree with the placement of more emphasis on the way problems should be dealt with instead of the problem itself.	1	2	3	4	5		

N/O: no opinion

3.3 SUPPORT FROM PROVINCIAL AND DISTRICT OFFICE	Classification					N/O	Comments
<i>The following questions are about your relationship with the provincial and district office.</i>	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
1. I receive sufficient information about the purpose of change.	1	2	3	4	5		
2. I receive sufficient information about how to implement change.	1	2	3	4	5		
3. I receive from provincial and district directorate resources, information, training, moral support, supervision and inspection to implement changes.	1	2	3	4	5		
4. My supervisors provide possibilities to help teachers in curriculum implementation and student centred teaching approach.	1	2	3	4	5		
5. My supervisors provide direct information about the changes needed in the field of well curriculum and teaching.	1	2	3	4	5		
6. My supervisors check how well I am implementing the changes in curriculum.	1	2	3	4	5		
7. My supervisors provide feedback about my role as school leader in implementing the change.	1	2	3	4	5		
8. I think that my supervisors are interested in changes related to curriculum and teaching.	1	2	3	4	5		
9. I have confidence in my supervisors to help me to implement changes in the field of curriculum and teaching.	1	2	3	4	5		

N/O: no opinion

Appendices

3.4 TASK AUTONOMY	Classification					N/O	Comments
<i>The following questions are related to your autonomy from the district office.</i>	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
1. I am given freedom to carry out my activities.	1	2	3	4	5		
2. I have influence over the planning of my activities.	1	2	3	4	5		
3. I can decide myself how I carry out my work.	1	2	3	4	5		
4. I can share in making decisions about the time when something must be finished.	1	2	3	4	5		
5. I can decide myself how much time I spend on a particular activity.	1	2	3	4	5		

N/O: no opinion

3.5 CHANGED TEACHING PRACTICES	Classification					N/O	Comments
<i>The following questions related to the way teachers teach.</i>	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
The instruction of my teachers is less whole-class oriented.	1	2	3	4	5		
1. Our pupils have to work on tasks more frequently (instead of listening to the teacher).	1	2	3	4	5		
2. My teachers more frequently give pupils tasks involving small-scale research.	1	2	3	4	5		
3. Our teaching is more about practical matters.	1	2	3	4	5		
4. The examples that my teachers give are more practical.	1	2	3	4	5		
5. Our pupils work more autonomously.	1	2	3	4	5		
6. My teachers use more varied teaching methods and instructional formats.	1	2	3	4	5		
7. My teachers use more varied teaching materials.	1	2	3	4	5		
8. My teachers place more emphasis on the way problems should be dealt with instead of the problem itself.	1	2	3	4	5		
9. My teachers like to teach according to tried and tested ideas or methods.	1	2	3	4	5		
10. My teachers feel comfortable when their work goes according to a fixed routine.	1	2	3	4	5		
11. My teachers do not like to deviate from the traditional teaching method.	1	2	3	4	5		

N/O: no opinion

3.6 WORKPACE AND WORKLOAD	Classification					N/O	Comments
<i>The following questions are related to workpace and workload.</i>	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
1. I have to work very fast.	1	2	3	4	5		
2. I have a lot of work to do.	1	2	3	4	5		
3. I have to work especially hard to finish something.	1	2	3	4	5		
4. I work under pressure.	1	2	3	4	5		
5. I can take my time over doing my work.	1	2	3	4	5		
6. I would like to be able to do my work at a more leisurely pace.	1	2	3	4	5		

N/O: no opinion

SECTION 4: PRINCIPAL AND VICE-PRINCIPAL'S LEADERSHIP

4.1 LEADERSHIP PRACTICES	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
VISION AND GOALS: <i>Works toward whole staff consensus in establishing and communicates these priorities and goals to staff, giving a sense of overall purpose.</i>							
1. I give staff a sense of overall purpose.	1	2	3	4	5		
2. I help clarify the specific meaning of the school's mission in terms of its practical implications for programs and instruction.	1	2	3	4	5		
3. I communicate school mission to staff.	1	2	3	4	5		
4. I encourage the development of school culture supporting openness to change.	1	2	3	4	5		
5. I help the staff understand the relationship between their school's mission and the subject's/grade's groups initiatives and policies.	1	2	3	4	5		
6. I work toward whole staff consensus in establishing priorities for school goals.	1	2	3	4	5		

N/O: no opinion

Appendices

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
CULTURE: <i>Promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students, and demonstrates a willingness to change his or her practices in light of new understandings.</i>							
1. I show respect for staff by treating them as professionals.	1	2	3	4	5		
2. I set a respectful tone for interaction with students.	1	2	3	4	5		
3. I demonstrate a willingness to change my own practices in light of new understandings.	1	2	3	4	5		
4. I model problem-solving techniques that each teacher can readily adapt for work with colleagues and students.	1	2	3	4	5		
5. I promote an atmosphere of caring and trust among staff.	1	2	3	4	5		
6. I symbolise success and accomplishment within teacher's profession.	1	2	3	4	5		
STRUCTURE: <i>Supports a school structure that promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions.</i>							
1. I delegate leadership for activities critical for achieving school goals.	1	2	3	4	5		
2. I distribute leadership broadly among the staff representing various viewpoints in leadership positions.	1	2	3	4	5		
3. I ensure that teachers have adequate involvement in decision making related to programs and instructions.	1	2	3	4	5		
4. I support an effective committee structure for decision making.	1	2	3	4	5		
5. I facilitate effective communication among staff.	1	2	3	4	5		
6. I provide an appropriate level of autonomy for teachers in their own decision making.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
INTELLECTUAL STIMULATION: <i>Encourages staff to reflect on what they are trying to achieve with students and how they are doing it, facilitates opportunities for staff to learn from each other, and models continual learning in his or her own practice.</i>							
1. I am a source of new ideas for each teacher's professional learning.	1	2	3	4	5		
2. I value the professional development of my teachers.	1	2	3	4	5		
3. I stimulate each teacher to think about what he or she is doing for his or her students.	1	2	3	4	5		
4. I create opportunities for teachers to develop professionally in dealing with the new curriculum.	1	2	3	4	5		
5. I see that teacher training activities are in harmony with school development activities.	1	2	3	4	5		
6. I encourage my staff to develop/review individual professional growth goals consistent with school goals and priorities.	1	2	3	4	5		
7. I encourage staff to evaluate their practices and refine them as needed.	1	2	3	4	5		
8. I encourage and stimulate my teachers to visit each other's classes to provide each other with feedback.	1	2	3	4	5		
9. I create plans for the professional development.	1	2	3	4	5		
10. I see that training programs are followed up within the school itself.	1	2	3	4	5		
11. I stimulate my teachers to exchange knowledge and skills in order to help each other.	1	2	3	4	5		
12. I facilitate opportunities for staff to learn from each other.	1	2	3	4	5		
13. I bring workshops about new curriculum and student centred approach to my school where it's comfortable for teachers to participate.	1	2	3	4	5		
14. I give workshops myself and I share information with my teachers on conferences that I attend related to new curriculum and student centred teaching approach.	1	2	3	4	5		
INDIVIDUALIZED SUPPORT: <i>Provides moral support, shows appreciation for the work of individual staff, and takes staff's opinions into account when making decisions.</i>							
1. I give regular feedback to my teacher in curriculum implementation and teaching.	1	2	3	4	5		
2. I visit each teacher's classes to provide each teacher with feedback.	1	2	3	4	5		
3. I encourage each teacher to try new practices consistent with his or her own interests.	1	2	3	4	5		
4. I stimulate my teachers to try out new didactic methods especially student centred approach.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
5. I encourage each teacher to pursue his or her own goals for professional learning.	1	2	3	4	5		
6. I give constructive criticism to my teachers in dealing with the new curriculum and student centred teaching approach.	1	2	3	4	5		
7. I take opinion of each teacher into consideration when initiating actions that affect his or her work	1	2	3	4	5		
8. I am aware of each teacher's unique needs and expertise.	1	2	3	4	5		
9. I am inclusive; I do not show favouritism toward individuals or groups.	1	2	3	4	5		
10. I provide moral support by making each teacher feel appreciated for his or her contribution to the school.	1	2	3	4	5		
11. When hiring new teachers, I let them know I want them actively involved in school decision-making on new curriculum and teaching methods.	1	2	3	4	5		
12. I let teachers know they are responsible for all students, not just their own classes.	1	2	3	4	5		
PERFORMANCE EXPECTATIONS: <i>Has high expectations for teachers and for students and expects staff to be effective and innovative.</i>							
1. I have high expectations for teachers as professionals.	1	2	3	4	5		
2. I have high expectations for students.	1	2	3	4	5		
3. I expect teachers to be effective innovators.	1	2	3	4	5		

N/O: no opinion

4.2 What practices were not listed would you like to add?
4.3 Comment on 4.2

***Thank you very much for your collaboration!
You will receive the results of this research.***

Appendix A2: Questionnaire for Teachers

SECTION 1: BASIC INFORMATION ON THE INTERVIEWEE:

1.1 Name of the school:			
1.2 Level:	EP1	EP2	EP1 + EP2

1.3 City:		1.4 Province:	
------------------	--	----------------------	--

1.5 Function:		Since (year):	
1.6 Sex:	Male	Female	
1.7 Approximate age:			
Less than 25	25-35	36-45	Over 55

1.8 What qualifications do you have?				
Secondary education	Bachelors	Licenciatura	Master's	PhD

1.9 What is your specialisation?

1.10 Which grade do you teach?		Since (year):	
1.11 How many pupils do you teach?			
1.12 Are you teaching in more than one shift?	Yes	No	
1.13 If yes, how many?			

1.14 Are you teaching/ working in more than one school/job?	Yes	No
1.15 If yes, how many?		

1.16 What sort of education/training did you have to deal with the new curriculum?	
• Programme that leads to an academic degree	
• Programme that awards a certificate	
• Upgrading (in-service) course (without certification)	
• Workshop or seminar	
• Others (specify):	

SECTION 2: EDUCATIONAL CHANGES

A new curriculum has been developed for primary schools that provides for the use of mother tongue instruction in the early grades, with later transition to the National Language, and the inclusion of local content particular to the needs of each region of the country. There are the demands that the curriculum places on learners and teachers. But currently, instruction tends to focus on the teacher rather than the learner, and thus gives pupils limited opportunity to apply and reflect on concepts.

Please tick (✓) your response/answer in the appropriate box.

2.1 CONCERNS ABOUT COMPETENCIES	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
10. I worry about the rate of change in the field of curriculum and teaching.	1	2	3	4	5		
11. I wish everything with regard to curriculum and teaching would carry on the same way as much as possible.	1	2	3	4	5		
12. I consider myself capable of dealing with all changes in the field of curriculum and teaching.	1	2	3	4	5		
13. The current flow of curriculum and teaching innovations is a challenge for me as a teacher.	1	2	3	4	5		
14. All these changes and curriculum and teaching innovations make me feel like I am losing control of my profession as a teacher.	1	2	3	4	5		
15. Because of all the changes in the field of curriculum and teaching at the time I don't know where I am as a teacher.	1	2	3	4	5		
16. Because of all the changes in curriculum and teaching at the time I increasingly doubt my capacity to practice my profession.	1	2	3	4	5		
17. Because of all the changes in curriculum and teaching at the time I feel left to my own devices.	1	2	3	4	5		
18. Because of all the educational developments in the field of curriculum and teaching I no longer know what teaching should be about.	1	2	3	4	5		

N/O: no opinion

2.2 VALUES	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
TASK ORIENTATION: <i>autonomy vs willingness to co-operate.</i>							
1. I depend on my colleagues for my work.	1	2	3	4	5		
2. I am responsible not only for my own performance but also for that of a team.	1	2	3	4	5		
3. My colleagues are a certain extent also my competitors.	1	2	3	4	5		
4. I think I have the right to keep my knowledge to myself.	1	2	3	4	5		
5. I can learn from my mistakes.	1	2	3	4	5		
6. It has advantages to share your knowledge with others.	1	2	3	4	5		
7. I enjoy helping colleagues.	1	2	3	4	5		
8. I find annoying when other people take advantage of my knowledge.	1	2	3	4	5		
9. I enjoy sharing my knowledge with other people.	1	2	3	4	5		
VALUES: <i>the extent to which teachers agree with teaching approach</i>							
1. A student centred approach is valuable in the Mozambican school context.	1	2	3	4	5		
10. I agree with the approach of instruction less whole-class oriented.	1	2	3	4	5		
11. I agree with the on task teaching approach.	1	2	3	4	5		
12. I agree with the on task teaching approach involving small-scale research.	1	2	3	4	5		
13. I agree with the use of practical examples in my lessons.	1	2	3	4	5		
14. I agree with the approach of independent learning.	1	2	3	4	5		
15. I agree with the use of more varied teaching methods and instructional formats.	1	2	3	4	5		
16. I agree with the use more varied teaching materials.	1	2	3	4	5		
17. I agree with the placement of more emphasis on the way problems should be dealt with instead of the problem itself.	1	2	3	4	5		

N/O: no opinion

Appendices

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
SUPPORT FROM SCHOOL LEADERS AND OTHER SUPERVISORS							
10. I receive sufficient information about the purpose of change.	1	2	3	4	5		
11. I receive sufficient information about how to implement changes.	1	2	3	4	5		
12. I receive sufficient information about student centred teaching principles.	1	2	3	4	5		
13. I ask my principal for feedback.	1	2	3	4	5		
14. I receive from my supervisors resources, information, training, moral support, supervision and inspection to implement changes.	1	2	3	4	5		
15. I receive sufficient information about the results of my work.	1	2	3	4	5		
16. My supervisors provide possibilities to find out how well I am dealing with the new curriculum.	1	2	3	4	5		
17. My supervisors check how well I am implementing the changes in curriculum.	1	2	3	4	5		
18. My supervisors provide direct information about how well I am dealing with the new curriculum.	1	2	3	4	5		
19. My supervisors give me information about how well I am using the student centred teaching approach.	1	2	3	4	5		
20. I think that principal and vice-principal are interested in changes related to curriculum and teaching.	1	2	3	4	5		
21. I have confidence in principal and vice-principals to help me to implement changes in the field of curriculum and teaching.	1	2	3	4	5		

N/O: no opinion

SECTION 3: PROFESSIONAL LEARNING COMMUNITIES

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
POLICY AND EVALUATION: <i>the extent to which student achievement is monitored.</i>							
1. In this school we have agreement upon rules with respect to our teaching activities	1	2	3	4	5		
2. We agreed upon rules about the number of “common tests” each subject group and grade takes per school year.	1	2	3	4	5		
3. In this school we plan our teaching and assessment activities.	1	2	3	4	5		
4. In this school we have agreement on how to assess students.	1	2	3	4	5		
5. In this school we have “common tests” to standardise the goal and content of teaching.	1	2	3	4	5		
6. In this school results on “common” tests are feedback to us in order to improve teaching and learning.	1	2	3	4	5		
7. In this school we have evaluation rules.	1	2	3	4	5		
8. In this school we have school policy document.	1	2	3	4	5		
9. In this school we have agreement upon rules on the nature and content of testing.	1	2	3	4	5		
10. In this school we agreed upon rules on the pace of teaching and the teaching content.	1	2	3	4	5		
11. In this school we have agreement upon rules related to aspects of didactics of teaching.	1	2	3	4	5		
CONSULTATION AND COOPERATION AMONG TEACHERS: <i>the extent to which school staff adjust work activities through mutual consultation and the informal exchange of information.</i>							
1. I can always turn to my colleagues with problems and questions.	1	2	3	4	5		
2. My colleagues are willing to discuss new didactical methods with me.	1	2	3	4	5		
3. My colleagues are willing to give feedback on the way I teach if requested.	1	2	3	4	5		
4. Discussion with colleagues about work is superficial.	1	2	3	4	5		
5. My colleagues support me in trying out new methods.	1	2	3	4	5		
6. My colleagues tell me about their problems and solutions.	1	2	3	4	5		

N/O: no opinion

Appendices

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
7. My colleagues are only interested in their own lessons.	1	2	3	4	5		
8. My colleagues pass on their learning experiences after participation in training programs.	1	2	3	4	5		
9. I have to consult colleagues a lot of my work	1	2	3	4	5		
10. I consult my colleagues about planning teaching activities.	1	2	3	4	5		
11. I have to contact with my colleagues about the pace of teaching and the teaching content.	1	2	3	4	5		
12. I consult my colleagues about the nature and content of testing.	1	2	3	4	5		
13. We exchange experiences with schools that are facing similar problems.	1	2	3	4	5		
14. We spent time on reflecting jointly on our goals.	1	2	3	4	5		
15. We jointly reflect on what has to be unlearned.	1	2	3	4	5		
16. In this school we review what has gone well and what has not regarding to teaching approach.	1	2	3	4	5		
17. In this school we look for the causes of success and failure in implementing the new curriculum.	1	2	3	4	5		
18. In this school time is reserved to make plans for improvements.	1	2	3	4	5		
CONSENSUS: <i>the extent to which teachers have common views on matters like the tasks and function of the school, subject matter goals, teaching, and the teaching content.</i>							
1. Teachers who have different opinion on matters like the tasks and function of the school, subject matter goals, teaching, and the teaching content are accepted.	1	2	3	4	5		
2. Teachers share the same views about tasks and functions of the school.	1	2	3	4	5		
3. It is easy to reach consensus about the goals of teaching.	1	2	3	4	5		
4. Within this school we have the same ideas about how to teach.	1	2	3	4	5		
5. Ideas about good teaching are shared by most teachers.	1	2	3	4	5		
6. We agree with the use of mother tongue instruction.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
7. We agree with the goals of inclusion of local content in the new curriculum.	1	2	3	4	5		
8. We agree with the way of teaching local content.	1	2	3	4	5		
9. If we want to change the teaching methods we agree easily.	1	2	3	4	5		
10. In this school we have similar goals regarding how to deal with students.	1	2	3	4	5		
11. In this school there are conflicts about new curriculum and new teaching approach.	1	2	3	4	5		
DECISION-MAKING: <i>the extent to which individual teachers can decide on their teaching independently, and the extent to which the subject's group or grade as a "collective" plays a role.</i>							
1. Plans for the new curriculum are discussed with the entire teaching staff at our school.	1	2	3	4	5		
2. I can influence the plans being made at our school for the implementation of the new curriculum.	1	2	3	4	5		
3. I have the space to implement the student centred methods in my classroom according to my own judgement and insights.	1	2	3	4	5		
4. At our school, the experiences of teachers play a role in the formulation of a plan for the implementation of the new curriculum.	1	2	3	4	5		
5. At our school, I only hear about the exact content of new plans after everything has been settled.	1	2	3	4	5		
6. During the implementation of the new curriculum at our school, the problems that I may experience in doing this are taken into consideration.	1	2	3	4	5		

N/O: no opinion

3.1 What activities/practices were not listed would you like to add?

3.2 Comment on 3.3

SECTION 4: TEACHERS DEVELOPMENT ACTIVITIES

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
CHANGED TEACHING PRACTICES: the extent to which teachers apply new teaching approach.							
1. My instruction is less whole-class oriented.	1	2	3	4	5		
2. My pupils have to work on tasks more frequently (instead of listening to the teacher).	1	2	3	4	5		
3. I more frequently give pupils tasks involving small-scale research.	1	2	3	4	5		
4. My teaching is more about practical matters.	1	2	3	4	5		
5. The examples that I give are more practical.	1	2	3	4	5		
6. My pupils work more autonomously.	1	2	3	4	5		
7. I use more varied teaching methods and instructional formats.	1	2	3	4	5		
8. I use more varied teaching materials.	1	2	3	4	5		
9. I place more emphasis on the way problems should be dealt with instead of the problem itself.	1	2	3	4	5		
10. I like to work according to tried and tested ideas or methods.	1	2	3	4	5		
11. I feel comfortable when my work goes according to a fixed routine.	1	2	3	4	5		
12. I do not like to deviate from the prescribed working method.	1	2	3	4	5		
13. I like to try things out, even if it sometimes leads nowhere.	1	2	3	4	5		
14. I experiment with other working methods.	1	2	3	4	5		
LEARNING ACTIVITIES: the extent to which teachers develop themselves.							
1. I take initiatives to develop professional.	1	2	3	4	5		
2. I keep myself informed on developments within educational science.	1	2	3	4	5		
3. Even if participation is not obligatory, I participate in training programs.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
4. In my lessons I experiment with various didactic methods.	1	2	3	4	5		
5. I use new knowledge and skills in my lessons.	1	2	3	4	5		
6. I use the reactions of the pupils to improve my teaching practices.	1	2	3	4	5		
7. I discuss the problems that I experience at work with my colleagues.	1	2	3	4	5		
TEACHER COMMITMENT: <i>the extent to which teacher like his or her present school and how much is committed to continue working at the present primary school where is now working.</i>							
1. I accept and obey the norms, rules and regulations set by the school	1	2	3	4	5		
2. This school inspires and drives me to work hard due to its high standards of academic performance	1	2	3	4	5		
3. Comparing with other schools, for me this is the best school to work for and teach	1	2	3	4	5		
4. Often, I find it difficult to agree with the rules and regulations for teachers in this school	1	2	3	4	5		
5. I have willingness to put in a great of effort beyond what is normally expected in order to help this school be successful	1	2	3	4	5		
6. For me, there is not much to be gained by continuing to work in this school any longer	1	2	3	4	5		

N/O: no opinion

4.1 What activities/practices were not listed would you like to add?

4.2 Comment on 4.1

SECTION 5: PRINCIPAL AND VICE-PRINCIPAL'S LEADERSHIP

5.1 LEADERSHIP PRACTICES	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
VISION AND GOALS: <i>Works toward whole staff consensus in establishing and communicates these priorities and goals to staff, giving a sense of overall purpose.</i>							
7. My principal and/or vice-principal give(s) staff a sense of overall purpose.	1	2	3	4	5		
8. My principal and/or vice-principal help(s) clarify the specific meaning of the school's mission in terms of its practical implications for programs and instruction.	1	2	3	4	5		
9. My principal and/or vice-principal communicate(s) school mission to staff.	1	2	3	4	5		
10. My principal and/or vice-principal encourage(s) the development of school culture supporting openness to change.	1	2	3	4	5		
11. My principal and/or vice-principal help(s) the staff understand the relationship between their school's mission and the subject's/grade's groups initiatives and policies.	1	2	3	4	5		
12. My principal and/or vice-principal work(s) toward whole staff consensus in establishing priorities for school goals.	1	2	3	4	5		
CULTURE: <i>Promotes an atmosphere of caring and trust among staff, sets a respectful tone for interaction with students, and demonstrates a willingness to change his or her practices in light of new understandings.</i>							
7. My principal and/or vice-principal show(s) respect for staff by treating them as professionals.	1	2	3	4	5		
8. My principal and/or vice-principal set(s) a respectful tone for interaction with students.	1	2	3	4	5		
9. My principal and/or vice-principal demonstrate(s) willingness to change his or her (their) own practices in light of new understandings.	1	2	3	4	5		
10. My principal and/or vice-principal model(s) problem-solving techniques that each teacher can readily adapt for work with colleagues and students.	1	2	3	4	5		
11. My principal and/or vice-principal promote(s) an atmosphere of caring and trust among staff.	1	2	3	4	5		
12. My principal and/or vice-principal symbolise(s) success and accomplishment within teacher's profession.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
STRUCTURE: <i>Supports a school structure that promotes participative decision making, delegating and distributing leadership to encourage teacher autonomy for making decisions.</i>							
7. My principal and/or vice-principal delegate(s) leadership for activities critical for achieving school goals.	1	2	3	4	5		
8. My principal and/or vice-principal distribute(s) leadership broadly among the staff representing various viewpoints in leadership positions.	1	2	3	4	5		
9. My principal and/or vice-principal ensure(s) that teachers have adequate involvement in decision making related to programs and instructions.	1	2	3	4	5		
10. My principal and/or vice-principal support(s) an effective committee structure for decision making.	1	2	3	4	5		
11. My principal and/or vice-principal facilitate(s) effective communication among staff.	1	2	3	4	5		
12. My principal and/or vice-principal provide(s) an appropriate level of autonomy for teachers in their own decision making.	1	2	3	4	5		
INTELLECTUAL STIMULATION: <i>Encourages staff to reflect on what they are trying to achieve with students and how they are doing it, facilitates opportunities for staff to learn from each other, and models continual learning in his or her own practice.</i>							
15. My principal and/or vice-principal is (are) a source of new ideas for each teacher's professional learning.	1	2	3	4	5		
16. My principal and/or vice-principal value (s) the professional development of teachers.	1	2	3	4	5		
17. My principal and/or vice-principal stimulate(s) each teacher to think about what he or she is doing for his or her students.	1	2	3	4	5		
18. My principal and/or vice-principal create(s) opportunities for teachers to develop professionally in dealing with the new curriculum.	1	2	3	4	5		
19. My principal and/or vice-principal see(s) that teacher training activities are in harmony with school development activities.	1	2	3	4	5		
20. My principal and/or vice-principal encourage(s) staff to develop/review individual professional growth goals consistent with school goals and priorities.	1	2	3	4	5		
21. My principal and/or vice-principal encourage(s) staff to evaluate their practices and refine them as needed.	1	2	3	4	5		

N/O: no opinion

Appendices

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
22. My principal and/or vice-principal encourage(s) and stimulate(s) teachers to visit each other's classes to provide each other with feedback.	1	2	3	4	5		
23. My principal and/or vice-principal create (s) plans for the professional development.	1	2	3	4	5		
24. My principal and/or vice-principal see (s) that training programs are followed up within the school itself.	1	2	3	4	5		
25. My principal and/or vice-principal stimulate(s) teachers to exchange knowledge and skills in order to help each other.	1	2	3	4	5		
26. My principal and/or vice-principal facilitate(s) opportunities for staff to learn from each other.	1	2	3	4	5		
27. My principal and/or vice-principal bring(s) workshops about new curriculum and student centred approach to school where it's comfortable for teachers to participate.	1	2	3	4	5		
28. My principal and/or vice-principal give(s) workshops him or herself (themselves) and he or her (they) share(s) information with teachers on conferences that he or her (they) attend(s) related to new curriculum and student centred teaching approach.	1	2	3	4	5		
INDIVIDUALIZED SUPPORT: <i>Provides moral support, shows appreciation for the work of individual staff, and takes staff's opinions into account when making decisions.</i>							
13. My principal and/or vice-principal give(s) regular feedback to teacher in curriculum implementation and teaching.	1	2	3	4	5		
14. My principal and/or vice-principal visit(s) each teacher's classes to provide each teacher with feedback.	1	2	3	4	5		
15. My principal and/or vice-principal encourage(s) each teacher to try new practices consistent with his or her own interests.	1	2	3	4	5		
16. My principal and/or vice-principal stimulate(s) teachers to try out new didactic methods especially student centred approach.	1	2	3	4	5		
17. My principal and/or vice-principal give (s) constructive criticism to teachers in dealing with the new curriculum and student centred teaching approach.	1	2	3	4	5		
18. My principal and/or vice-principal encourage(s) each teacher to pursue his or her own goals for professional learning.	1	2	3	4	5		
19. My principal and/or vice-principal take(s) opinion of each teacher into consideration when initiating actions that affect his or her work.	1	2	3	4	5		
20. My principal and/or vice-principal is (are) aware of each teacher's unique needs and expertise.	1	2	3	4	5		

N/O: no opinion

	Classification					N/O	Comments
	Strongly disagree	Mostly disagree	In between	Mostly agree	Strongly agree		
21. My principal and/or vice-principal is (are) inclusive; he or she (they) do not show (s) favouritism toward individuals or groups.	1	2	3	4	5		
22. My principal and/or vice-principal provide (s) moral support by making each teacher feel appreciated for his or her contribution to the school.	1	2	3	4	5		
23. When hiring new teachers, my principal and/or vice-principal let them know he or she (they) want(s) them actively involved in school decision-making on new curriculum and teaching methods.	1	2	3	4	5		
24. My principal and/or vice-principal let teachers know they are responsible for all students, not just their own classes.	1	2	3	4	5		
PERFORMANCE EXPECTATIONS: <i>Has high expectations for teachers and for students and expects staff to be effective and innovative.</i>							
4. My principal and/or vice-principal has (have) high expectations for teachers as professionals.	1	2	3	4	5		
5. My principal and/or vice-principal has (have) high expectations for students.	1	2	3	4	5		
6. My principal and/or vice-principal expect(s) teachers to be effective innovators.	1	2	3	4	5		

N/O: no opinion

5.2 What practices were not listed would you like to add?
5.3 Comment on 5.2

*Thank you very much for your collaboration!
You will receive the results of this research.*

Appendix B2: Questionário para os Líderes Escolares

SECÇÃO 1: INFORMAÇÃO BÁSICA DO RESPONDENTE:

1.1 Nome da escola:			
1.2 Nível:	EP1	EP2	EP1+EP2

1.3 Cidade:		1.4 Província:	
--------------------	--	-----------------------	--

1.5 Função:		Desde (ano):	
1.6 Sexo:	Masculino	Feminino	
1.7 Idade aproximada:			
Menos de 25	25-35	36-45	Mais de 55

1.8 Que qualificações possui?				
Ensino secundário	Bacharelato	Licenciatura	Mestrado	Doutoramento

1.9 Qual é a sua especialização?

1.10 Recebeu alguma formação/treinamento na área de Administração e Gestão da Educação (AGE)?	Sim	Não
--	-----	-----

1.11 Se sim, que temas foram tratados?

1.12 Que tipo de formação/treinamento recebeu?	
• Programa que confira um grau académico	
• Programa de pós graduação	
• Programa que confira certificado	
• Cursos de capacitação (em exercício) (sem certificação)	
• Workshop or seminário	
• Outros (especifique):	

1.13 Antes de ser Director ou Adjunto Pedagógico exerceu outra função de liderança?	Sim	Não
--	-----	-----

1.14 Se sim qual?

SECÇÃO 2: INFORMAÇÃO BÁSICA SOBRE A ESCOLA

2.1 Tamanho da Escola (numero de alunos)					
2.2 Tipos de alunos: Qual e a sua percepção sobre a composição dos alunos da sua escola?	Muitos dos alunos provem de famílias pobres	Muitos dos alunos provem de famílias de classe media	Muitos provem de famílias privilegiadas		
2.3 Número de professores:			2.4 Racio alunos/ professor		
2.5 Percepção da qualidade do professor: Qual e a sua percepção sobre a qualidade dos seus professores?	Muito pobre	Pobre	Moderada	Boa	Muito boa

2.6 Quantos líderes formais existem na sua escola?	
Função	Número
• Adjunto Pedagógico	
• Coordenadores de área	
• Coordenadores de ciclo	

2.7 Quantas pessoas existem na sua escola com experiência em Administração e Gestão da Educação?	
Tipo de experiência	Número
• Ministro	
• Vice-Ministro	
• Director Nacional	
• Chefe de Departamento Central	
• Director Provincial	
• Chefe de Departamento	
• Director Distrital	
• Coordenador de ZIP	
• Director de escola	
• Adjunto Pedagógico	
• Coordenador de área	
• Coordenador de ciclo	
• Outros (especifique):	

SECÇÃO 3: MUDANÇAS EDUCACIONAIS

No fim do ano 1992 foi tomada a decisão de reformar fundamentalmente o SISTEMA NACIONAL DE EDUCAÇÃO EM MOÇAMBIQUE (SNE) através de medidas de descentralização, privatização e reorganização da formação do professor. A nível escolar, por exemplo, considera-se que os directores de escolas devem assumir tarefas que incluem o desenvolvimento curricular e a formação de professores. Um currículo novo foi desenhado para o ensino primário. Este currículo admite o uso da língua materna para o ensino nas classes iniciais, com a transição posterior para a Língua Nacional e a inclusão de conteúdos locais em conformidade com interesses de cada região do país. Há exigências que o currículo impõe aos alunos e aos professores. Mas actualmente o processo de ensino/aprendizagem tende a centrar-se mais no professor do que no aluno, dando assim ao aluno oportunidades limitadas de reflectir e se aplicar sobre os conceitos.

Favor assinale com (✓) a sua resposta no espaço apropriado.

3.1 A RESPEITO DE COMPETENCIAS	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
19. Preocupo-me com as mudanças no campo do currículo e do ensino.	1	2	3	4	5		
20. Gostaria que tudo a respeito do currículo e do ensino se desenvolvesse da mesma maneira.	1	2	3	4	5		
21. Sinto-me capaz de lidar com todo o tipo de mudanças no campo do currículo e do ensino.	1	2	3	4	5		
22. O plano curricular actual e as inovações do ensino constituem um desafio para mim como Director ou Adjunto Pedagógico.	1	2	3	4	5		
23. Todas estas mudanças e inovações do currículo e do ensino dão-me a sensação de estar a perder o controlo da minha função de Director ou Adjunto Pedagógico.	1	2	3	4	5		
24. Por causa destas mudanças no campo do currículo e do ensino, actualmente não consigo situar-me como Director ou Adjunto Pedagógico.	1	2	3	4	5		
25. Por causa destas mudanças no currículo e no ensino, actualmente as minhas dúvidas sobre as minhas competências de liderança tendem a aumentar.	1	2	3	4	5		
26. Por causa destas mudanças sinto-me só	1	2	3	4	5		
27. Por causa destes desenvolvimentos educacionais no campo do currículo e do ensino já não sei qual é a essência do processo de ensino-aprendizagem.	1	2	3	4	5		

S/O: Sem opinião

3.2 Valores	Classificação					S/O	Comentários
	Não importante	Pouco importante	Dividido	Importante	Muito importante		
ORIENTAÇÃO DE TAREFAS: Que importância têm as tarefas que se seguem?							
16. Trabalhar no aperfeiçoamento do currículo.	1	2	3	4	5		
17. Cuidar de dinheiro.	1	2	3	4	5		
18. Preparar informação para o Conselho da escola ou para a Direcção Distrital.	1	2	3	4	5		
19. Introduzir novas ideias educacionais.	1	2	3	4	5		
20. Cuidar de recursos financeiros.	1	2	3	4	5		
21. Apoiar a assistência aos alunos.	1	2	3	4	5		
22. Ajudar a criar uma atmosfera ordeira e orientada para as tarefas.	1	2	3	4	5		
23. Cuidar do edifício.	1	2	3	4	5		
24. Cuidar da formação de professores.	1	2	3	4	5		
25. Escrever cartas formais.	1	2	3	4	5		
26. Cuidar da administração	1	2	3	4	5		
27. Coordenar a educação.	1	2	3	4	5		
28. Fazer horários.	1	2	3	4	5		
29. Fazer o acompanhamento individual dos professores na escola.	1	2	3	4	5		
30. Levar a cabo observações nas salas de aulas	1	2	3	4	5		
VALORES: Até que ponto os Directores ou Adjuntos Pedagógicos concordam com as abordagens de ensino.	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
1. Uma abordagem centrada no aluno é válida no contexto das escolas Moçambicanas.	1	2	3	4	5		
18. Concordo com a abordagem de ensino pouco orientado a toda turma.	1	2	3	4	5		
19. Concordo com a abordagem de ensino baseado em tarefas	1	2	3	4	5		
20. Concordo com a abordagem de ensino baseado em tarefas envolvendo pesquisa de pequena escala	1	2	3	4	5		

S/O: sem opinião

Appendices

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
21. Concordo com o uso de exemplos práticos na sala de aula.	1	2	3	4	5		
22. Concordo com a abordagem de aprendizagem independente.	1	2	3	4	5		
23. Concordo com o uso variado de métodos de ensino e formatos instrucionais.	1	2	3	4	5		
24. Concordo com o uso variado de materiais de ensino.	1	2	3	4	5		
25. Concordo com a colocação de maior ênfase na forma como os problemas deviam ser resolvidos e não no problema em si.	1	2	3	4	5		

S/O: sem opinião

3.3 APOIO DO DIREÇÃO PRONVINCIAL OU DISTRITAL	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
<i>As questões que se seguem são sobre o seu relacionamento com a Direcção Provincial e Distrital.</i>							
22. Recebo informação suficiente sobre o propósito de mudanças.	1	2	3	4	5		
23. Recebo orientações suficientes sobre como implementar mudanças.	1	2	3	4	5		
24. Recebo das Direcções Provinciais e Distritais recursos, informação, formação, apoio moral, supervisão e inspecção para implementar mudanças.	1	2	3	4	5		
25. Os meus supervisores incentivam-me a apoiar os professores na implementação do currículo e na abordagem de ensino centrado no aluno	1	2	3	4	5		
26. Os meus supervisores providenciam informação sobre as mudanças necessárias no currículo e no ensino.	1	2	3	4	5		
27. Os meus supervisores verificam como implemento as mudanças no currículo.	1	2	3	4	5		
28. Os meus supervisores providenciam feedback sobre o meu papel como líder escolar na implementação de mudanças.	1	2	3	4	5		
29. Acho que os meus supervisores estão interessados nas mudanças relacionadas com o currículo e o ensino.	1	2	3	4	5		
30. Confio nos meus supervisores em ajudar-me a implementar mudanças no campo do currículo e do ensino.	1	2	3	4	5		

S/O: sem opinião

3.4 AUTONOMIA DE TAREFAS	Classificação					S/O	Comentários
<i>As questões que se seguem dizem respeito à sua autonomia na realização de tarefas, em relação à Direcção Distrital.</i>	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
6. Sou dado a liberdade de realizar as minhas actividades.	1	2	3	4	5		
7. Tenho influencia na planificação das minhas actividades.	1	2	3	4	5		
8. Tenho poder de decisão sobre o meu trabalho.	1	2	3	4	5		
9. Tenho liberdade de partilhar a tomada de decisão sobre os prazos de realização de tarefas específicas.	1	2	3	4	5		
10. Tenho poder de decisão sobre o tempo que levo na realização de uma determinada actividade.	1	2	3	4	5		

S/O: sem opinião

3.5 NOVAS PRÁTICAS DE ENSINO	Classificação					S/O	Comentários
<i>As questões que seguem dizem respeito à forma como os professores ensinam.</i>	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
12. O ensino dos meus professores está menos orientado a toda turma.	1	2	3	4	5		
13. Os nossos alunos trabalham com maior incidência em tarefas (ao invés de somente ouvir o professor).	1	2	3	4	5		
14. Os meus professores dão frequentemente tarefas aos alunos envolvendo pequenas pesquisas.	1	2	3	4	5		
15. O nosso ensino é virado mais a questões práticas.	1	2	3	4	5		
16. Os meus professores dão exemplos práticos.	1	2	3	4	5		
17. Os nossos alunos trabalham mais autonomamente.	1	2	3	4	5		
18. Os meus professores usam métodos de ensino e formatos instrucionais mais variados.	1	2	3	4	5		
19. Os meus professores usam materiais de ensino mais variados.	1	2	3	4	5		
20. Os meus professores enfatizam mais a forma de resolver os problemas e não o problema em si.	1	2	3	4	5		
21. Os meus professores gostam de ensinar de acordo com métodos e ideias experimentados.	1	2	3	4	5		
22. Os meus professores sentem-se mais seguros quando o seu trabalho vai de acordo com a rotina.	1	2	3	4	5		
23. Os meus professores não gostam de desviar de métodos tradicionais de ensino.	1	2	3	4	5		

S/O: sem opinião

Appendices

3.6 CARGA DE TRABALHO	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
<i>As questões que se seguem dizem respeito a carga de trabalho.</i>							
7. Devo trabalhar rapidamente.	1	2	3	4	5		
8. Tenho muito trabalho a fazer.	1	2	3	4	5		
9. Devo trabalhar arduamente para terminar alguma coisa.	1	2	3	4	5		
10. Trabalho sob pressão.	1	2	3	4	5		
11. Posso gastar o meu tempo fazendo o meu trabalho.	1	2	3	4	5		
12. Gostaria de ser capaz de fazer o meu trabalho num tempo útil.	1	2	3	4	5		

S/O: sem opinião

SECÇÃO 4: LIDERAÇA DO DIRECTOR E DO ADJUNTO PEDAGÓGICO

4.1 PRÁTICAS DE LIDERANÇA	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
VISÃO E OBJECTIVOS: Trabalhos direccionados ao consenso do corpo docente para estabelecer e comunicar as prioridades, os objectivos e o propósito da escola.							
13. Sensibilizo o corpo docente em relação ao propósito da escola.	1	2	3	4	5		
14. Ajudo a esclarecer o significado específico da missão da escola em termos de suas implicações práticas para os programas e para o ensino.	1	2	3	4	5		
15. Comunico a missão da escola ao corpo docente.	1	2	3	4	5		
16. Encorajo o desenvolvimento da cultura da escola apoiando aberturas para mudanças.	1	2	3	4	5		
17. Ajudo o corpo docente a compreender a relação entre a missão da escola e as iniciativas e políticas dos grupos de disciplina e de classe.	1	2	3	4	5		
18. Trabalho em prol do consenso do corpo docente na definição de prioridades em relação às metas e aos objectivos da escola.	1	2	3	4	5		

S/O: sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
CULTURA: Promove uma atmosfera de harmonia e confiança no seio do corpo docente, estabelece um clima de respeito na e para a interacção com os alunos e demonstra vontade para mudar as suas praticas a luz de novos entendimentos.							
13. Mostro respeito ao corpo docente tratando os professores como profissionais.	1	2	3	4	5		
14. Estabeleço um clima de respeito na e para a interacção com os alunos.	1	2	3	4	5		
15. Demonstro vontade para mudar minhas praticas a luz de novos entendimentos.	1	2	3	4	5		
16. Modelo técnicas de solução de problemas que cada professor pode prontamente adaptar para o trabalho com os colegas e alunos.	1	2	3	4	5		
17. Promovo um clima de atenção, cuidado e confiança no seio do corpo docente.	1	2	3	4	5		
18. Simbolizo sucesso e realização dentro da profissão de professor.	1	2	3	4	5		
ESTRUTURA: Apoiar uma estrutura de escola que promove tomada de decisão participativa, delegando e distribuindo liderança para encorajar a autonomia do professor na tomada de decisões.							
13. Delego liderança para actividades importantes para o alcance dos objectivos e metas da escola.	1	2	3	4	5		
14. Distribuo liderança, amplamente, no seio do corpo docente, representando vários pontos de vista nas posições de liderança.	1	2	3	4	5		
15. Asseguro que professores tenham envolvimento adequado na tomada de decisão relativa aos programas e ao ensino.	1	2	3	4	5		
16. Apoio uma estrutura efectiva para tomada de decisão.	1	2	3	4	5		
17. Facilito a comunicação efectiva no seio do corpo docente.	1	2	3	4	5		
18. Providencio um nível apropriado de autonomia para professores na sua tomada de decisão.	1	2	3	4	5		

S/O: sem opinião

Appendices

	Classificação					N/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
ESTIMULO INTELECTUAL: Encoraja o corpo docente a reflectir no que esta a tentar alcançar com os alunos e como estão a fazê-lo, facilita oportunidades para os professores aprenderem uns dos outros e modela aprendizagem continua na sua própria pratica.							
29. Sou uma fonte de novas ideias para aprendizagem profissional de cada professor.	1	2	3	4	5		
30. Valorizo o desenvolvimento profissional dos meus professores.	1	2	3	4	5		
31. Estimulo cada professor a pensar sobre o que ele/ela faz para seus alunos.	1	2	3	4	5		
32. Crio oportunidades para o desenvolvimento profissional dos professores em lidar com o novo currículo.	1	2	3	4	5		
33. Vejo que as actividades de formação dos professores são em harmonia com as actividades de desenvolvimento da escola.	1	2	3	4	5		
34. Encorajo os meus professores a desenvolver/rever objectivos de crescimento profissional individual consistentes com os objectivos, metas e prioridades da escola.	1	2	3	4	5		
35. Encorajo o corpo docente a avaliar suas praticas e refina-las como o desejado.	1	2	3	4	5		
36. Encorajo e estimulo meus professores a se assistirem mutuamente para se fornecerem feedback.	1	2	3	4	5		
37. Elaboro planos para o desenvolvimento profissional.	1	2	3	4	5		
38. Vejo que os programas de formação estão a ser seguidos dentro da escola em si.	1	2	3	4	5		
39. Estimulo os meus professores a trocarem conhecimentos e habilidades por forma a se ajudarem mutuamente.	1	2	3	4	5		
40. Facilito oportunidades para os professores aprenderem uns dos outros.	1	2	3	4	5		
41. Trago workshops sobre o novo currículo e sobre a abordagem de ensino centrado no aluno para a minha escola onde é confortável para os meus professores participarem.	1	2	3	4	5		
42. Dou pessoalmente workshops e partilho informação com os meus professores sobre conferencias nas quais participo referentes ao novo currículo e abordagem de ensino centrado no aluno.	1	2	3	4	5		
APOIO INDIVIDUALIZADO: Providencia apoio moral, apreciação o trabalho de cada professor e toma em consideração as opiniões do corpo docente na tomada de decisões.							
25. Dou feedback regular a cada professor na implementação do novo currículo e no ensino.	1	2	3	4	5		
26. Visito as aulas de cada professor para fornecer feedback individual.	1	2	3	4	5		
27. Encorajo cada professor a tentar novas praticas consistentes com seus próprios interesses.	1	2	3	4	5		
28. Estimulo meus professores a tentar novos métodos didácticos especialmente a abordagem centrada no aluno.	1	2	3	4	5		

S/O: sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
29. Encorajo cada professor a definir seus próprios objectivos para a aprendizagem profissional.	1	2	3	4	5		
30. Faço uma critica construtiva aos meus professores na abordagem do novo currículo e na abordagem de ensino centrado no aluno.	1	2	3	4	5		
31. Levo em consideração a opinião de cada professor ao iniciar acções que afectem o seu trabalho.	1	2	3	4	5		
32. Estou consciente das necessidades e pericia de cada professor.	1	2	3	4	5		
33. Sou inclusivo; não mostro favoritismo a um individuo ou a um grupo.	1	2	3	4	5		
34. Dou apoio moral fazendo com que cada professor se sinta apreciado pela contribuição que dá à escola.	1	2	3	4	5		
35. Quando recebo novos professores informo-lhes que quero que se envolvam activamente na tomada de decisão em relação ao novo currículo e métodos de ensino.	1	2	3	4	5		
36. Faço com que os meus professores saibam que são responsáveis por todos os alunos e não somente pelas suas turmas	1	2	3	4	5		
EXPECTATIVAS DE DESEMPENHO: Tem expectativas altas em relação aos professores e aos alunos e espera que os professores sejam eficazes, eficientes e inovadores.							
7. Tenho expectativas altas em relação aos professores como profissionais.	1	2	3	4	5		
8. Tenho expectativas altas em relação aos alunos.	1	2	3	4	5		
9. Espero que os professores sejam inovadores efectivos.	1	2	3	4	5		

S/O: sem opinião

4.2 Que práticas não mencionadas gostaria de acrescentar?
4.3 Comente a resposta dada em 4.2

*Muito obrigado pela colaboração.
Receberá os resultados desta pesquisa.*

Appendix B2: Questionário para os Professores

SECÇÃO 1: INFORMAÇÃO BÁSICA DO RESPONDENTE:

1.1 Nome da escola:			
1.2 Nível:	EP1	EP2	EP1+EP2

1.3 Cidade:		1.4 Província:	
--------------------	--	-----------------------	--

1.5 Função:		Desde (ano):		
1.6 Sexo:	Masculino	Feminino		
1.7 Idade aproximada:				
Menos de 25	25-35	36-45	46-55	Mais de 55

1.8 Que qualificações possui?				
Ensino secundário	Bacharelato	Licenciatura	Mestrado	Doutoramento

1.9 Qual é a sua especialização?

1.10 Que classe ensina?		Desde (ano):
1.11 Quantos alunos tem?		
1.12 Ensina em mais de um turno?	Sim	Não
1.13 Se sim, em quantos turnos ensina?		

1.14 Ensina/ trabalha em mais do que uma escola /instituição?	Sim	Não
1.15 Se sim, em quantas escolas/instituições ensina/trabalha?		

1.16 Que tipo de formação/treinamento recebeu para lidar com o novo currículo do ensino básico?	
• Programa que confira um grau académico	
• Programa que confira certificado	
• Cursos de capacitação (em exercício) (sem certificação)	
• Workshop or seminário	
• Outros (especifique):	

SECÇÃO 2: MUDANÇAS EDUCACIONAIS

Um currículo novo foi desenhado para o ensino primário. Este currículo admite o uso da língua materna para o ensino nas classes iniciais, com a transição posterior para a Língua Nacional e a inclusão de conteúdos locais em conformidade com interesses de cada região do país. Há exigências que o currículo impõe aos alunos e aos professores. Mas actualmente o processo de ensino/aprendizagem tende a centrar-se mais no professor do que no aluno, dando assim ao aluno oportunidades limitadas de reflectir e se aplicar sobre os conceitos.

Favor assinale com (✓) a sua resposta no espaço apropriado.

2.1 A RESPEITO DE COMPETENCIAS	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
28. Preocupo-me com as mudanças no campo do currículo e do ensino.	1	2	3	4	5		
29. Gostaria que tudo a respeito do currículo e do ensino se desenvolvesse da mesma maneira.	1	2	3	4	5		
30. Sinto-me capaz de lidar com todo o tipo de mudanças no campo do currículo e do ensino.	1	2	3	4	5		
31. O plano curricular actual e as inovações do ensino constituem um desafio para mim como professor.	1	2	3	4	5		
32. Todas estas mudanças e inovações do currículo e do ensino dão-me a sensação de estar a perder o controlo da minha função de professor.	1	2	3	4	5		
33. Por causa destas mudanças no campo do currículo e do ensino, actualmente não consigo situar-me como professor.	1	2	3	4	5		
34. Por causa destas mudanças no currículo e no ensino, actualmente as minhas dúvidas sobre as minhas competências de liderança tendem a aumentar.	1	2	3	4	5		
35. Por causa destas mudanças sinto-me só	1	2	3	4	5		
36. Por causa destes desenvolvimentos educacionais no campo do currículo e do ensino já não sei qual é a essência do processo de ensino-aprendizagem.	1	2	3	4	5		

S/O: Sem opinião

Appendices

2.2 Valores	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
ORIENTAÇÃO DE TAREFAS:							
1. Dependo dos meus colegas para o meu trabalho.	1	2	3	4	5		
2. Sou responsável não só do meu desempenho mas também do da minha equipa.	1	2	3	4	5		
3. Até certo nível os meus colegas são, também, meus competidores/concorrentes.	1	2	3	4	5		
4. Acho que tenho o direito de conservar os meus conhecimentos para mim.	1	2	3	4	5		
5. Aprendo dos meus erros.	1	2	3	4	5		
6. É vantajoso partilhar os seus conhecimentos com os outros.	1	2	3	4	5		
7. Aprecio ajudar os meus colegas.	1	2	3	4	5		
8. Incomoda-me que outras pessoas tenham vantagens a partir dos meus conhecimentos.	1	2	3	4	5		
9. Aprecio partilhar os meus conhecimentos com outras pessoas.	1	2	3	4	5		
VALORES: o grau de concordância dos professores em relação à abordagem de ensino vigente.							
1. Uma abordagem de ensino centrado no aluno é válida no contexto mocambicano.	1	2	3	4	5		
26. Concordo com a abordagem de ensino pouco orientada a toda a turma.	1	2	3	4	5		
27. Concordo com a abordagem de ensino centrado nas tarefas.	1	2	3	4	5		
28. Concordo com a abordagem de ensino envolvendo pesquisa de pequena escala.	1	2	3	4	5		
29. Concordo com o uso de exemplos práticos nas minhas aulas.	1	2	3	4	5		
30. Concordo com a abordagem de aprendizagem independente.	1	2	3	4	5		
31. Concordo com a variação de métodos e formas de ensino.	1	2	3	4	5		
32. Concordo com o uso de materiais de ensino variados.	1	2	3	4	5		
33. Concordo com a ênfase dada a forma de resolução de problemas do que o problema em si.	1	2	3	4	5		

S/O: Sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
APOIO A PARTIR DOS LIDERES ESCOLARES E OUTROS SUPERVISORES							
31. Recebo informação suficiente sobre o propósito da mudança.	1	2	3	4	5		
32. Recebo informacao suficiente sobre como implementar mudanças.	1	2	3	4	5		
33. Recebo informação suficiente sobre princípios do ensino centrado no aluno.	1	2	3	4	5		
34. Peço o feedback ao meu director ou adjunto pedagógico.	1	2	3	4	5		
35. Recebo, dos meus supervisores, recursos, informação, formação, apoio moral, supervisão e inspeção para implementar mudanças.	1	2	3	4	5		
36. Recebo informação suficiente sobre os resultados do meu trabalho.	1	2	3	4	5		
37. Os meus supervisores criam possibilidades para avaliar como estou lidando com o novo currículo.	1	2	3	4	5		
38. Os meus supervisores verificam como implemento as mudanças no currículo.	1	2	3	4	5		
39. Os meus supervisores fornecem informacao directa sobre como estou a lidar com o novo currículo.	1	2	3	4	5		
40. Os meus supervisores dao-me informacao sobre como estou a usar a abordagem de ensino centrado no aluno.	1	2	3	4	5		
41. Acho que o Director e o Adjunto Pedagógico estao interessados nas mudanças relacionadas com o curriculo e o ensino.	1	2	3	4	5		
42. Confio no meu Director e Adjunto Pedagógico em me ajudar a implementar mudancas no campo do curriculo e no ensino.	1	2	3	4	5		

S/O: Sem opinião

SECÇÃO 3: COMUNIDADES PROFISSIONAIS DE APRENDIZAGEM

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
POLITICA E AVALIAÇÃO: <i>até que ponto as realizações/rendimento do aluno são monitorados.</i>							
12. Nesta escola temos acordos nos regulamentos e regras a respeito das nossas actividades de ensino.	1	2	3	4	5		
13. Concordamos sobre as regras no número de provas gerais que cada grupo de disciplina ou classe deve administrar por ano.	1	2	3	4	5		
14. Nesta escola planificamos as nossas actividades de ensino e de avaliação.	1	2	3	4	5		
15. Nesta escola acordamos nas formas/modos como avaliamos os nossos alunos.	1	2	3	4	5		
16. Nesta escola temos provas gerais para padronizar os objectivos e os conteúdos de ensino.	1	2	3	4	5		
17. Nesta escola os resultados das provas gerais são feedback para nós para melhorar o processo de ensino e aprendizagem.	1	2	3	4	5		
18. Nesta escola temos regulamentos e regras de avaliação.	1	2	3	4	5		
19. Nesta escola temos documentos de política educacional.	1	2	3	4	5		
20. Nesta escola temos acordos nas regras sobre a natureza e o conteúdo das provas.	1	2	3	4	5		
21. Nesta escola concordamos sobre o periodo de ensino e o conteúdo a leccionar.	1	2	3	4	5		
22. Nesta escola acordamos sobre as regras relacionadas com aspectos das didácticas de ensino.	1	2	3	4	5		
CONSULTA E COOPERAÇÃO ENTRE PROFESSORES: <i>o grau de ajuste das actividades dos professores através da consulta mútua e troca informal de informação.</i>							
19. Conto sempre com os meus na solução de meus problemas.	1	2	3	4	5		
20. Os meus colegas desejam/gostam de discutir novos métodos didácticos comigo.	1	2	3	4	5		
21. Os meus colegas desejam/gostam de dar feedback sobre as minhas aulas quando solicitados.	1	2	3	4	5		
22. A discussão com os meus colegas sobre o trabalho é superficial.	1	2	3	4	5		
23. Os meus colegas apoiam-me na tentativa do uso de novos metodos de ensino e aprendizagem..	1	2	3	4	5		
24. Os meus colegas falam-me sobre seus problemas e soluções.	1	2	3	4	5		

S/O: Sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
25. Os meus colegas estão somente interessados nas suas aulas.	1	2	3	4	5		
26. Os meus colegas transmitem suas experiencias de aprendizagem depois de participarem em programas de formação.	1	2	3	4	5		
27. Devo consultar muito aos meus colegas sobre o meu trabalho.	1	2	3	4	5		
28. Consulto aos meus colegas sobre as actividades de planificacao do ensino.	1	2	3	4	5		
29. Devo contactar os meus colegas sobre o periodo e conteudo de ensino.	1	2	3	4	5		
30. Consulto os meus colegas sobre a natureza e o conteúdo de das provas.	1	2	3	4	5		
31. Trocamos experiencias com as escolas que enfrentam os mesmos problemas.	1	2	3	4	5		
32. Levamos tempo reflectindo em conjunto sobre os nossos objectivos.	1	2	3	4	5		
33. Juntos pensamos sobre o que nao deve ser aprendido.	1	2	3	4	5		
34. Nesta escola revemos o que foi correcto e o que foi errado a respeito da abordagem de ensino.	1	2	3	4	5		
35. Nesta escola procuramos as causas do sucesso e do fracasso na implementacao do novo curriculo.	1	2	3	4	5		
36. Nesta escola é reservado tempo para elaborar planos de aperfeicoamento.	1	2	3	4	5		
CONSENSO: <i>o grau de visão comum sobre as tarefas e a função das metas ou objectivos gerais das disciplinas, do ensino e do conteúdo de ensino.</i>							
12. Os professores com opinioes diferentes sobre assuntos como tarefas e funcoes da escola, objectivos da disciplina, do ensino e do conteúdo de ensino sao aceites.	1	2	3	4	5		
13. Os professores partilham mesmas opiniões sobre tarefas e funções da escola.	1	2	3	4	5		
14. É simples e fácil chegar a consenso sobre objectivos do ensino.	1	2	3	4	5		
15. Nesta escola temos as mesmas ideias sobre os objectivos e metodos de ensino.	1	2	3	4	5		
16. As ideias sobre bom ensino sao partilhadas por muitos professores.	1	2	3	4	5		
17. Concordamos com o uso das linguas maternas no processo de ensino e aprendizagem.	1	2	3	4	5		

S/O: Sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
18. Concordamos com os objectivos da inclusão de conteúdos locais no novo currículo.	1	2	3	4	5		
19. Concordamos com a forma de ensinar conteúdos locais.	1	2	3	4	5		
20. Se quisermos mudar os metodos de ensino concordamos facilmente.	1	2	3	4	5		
21. Nesta escola temos os mesmos objectivos sobre como lidar com os alunos.	1	2	3	4	5		
22. Nesta escola existem conflitos sobre o novo currículo e sobre a nova abordagem de ensino.	1	2	3	4	5		
TOMADA DE DECISAO: <i>ate que ponto os professores, individualmente, podem decidir de forma independente sobre o ensino e ate que ponto os grupos de disciplina e de classe desempenham o seu papel, como um colectivo.</i>							
7. Os planos para o novo currículo sao discutidos com todo o corpo docente da nossa escola.	1	2	3	4	5		
8. Posso influenciar os planos a serem elaborados na nossa escola para a implementação do novo currículo.	1	2	3	4	5		
9. Tenho espaço para implementar o metodo de ensino centrado no aluno nas minhas aulas, de acordo com os meus criterios e meu juizo de valor.	1	2	3	4	5		
10. Na nossa escola as experiencias dos professores jogam um papel para a formulacao de um plano para a implementacao do novo currículo.	1	2	3	4	5		
11. Na nossa escola somente tenho acesso aos conteúdos do novo plano quando tudo está feito.	1	2	3	4	5		
12. Durante a implementação do novo currículo na nossa escola, os problemas que enfrento neste processo são tomados em conta.	1	2	3	4	5		

S/O: Sem opinião

3.1 Que práticas não mencionadas gostaria de acrescentar?
3.2 Comente a resposta dada em 3.1.

SECÇÃO 4: ACTIVIDADES DE DESENVOLVIMENTO DOS PROFESSORES

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
MUDANCA DAS PRATICAS DE ENSINO: <i>o grau de aplicação da nova abordagem de ensino.</i>							
15. As minhas aulas são menos orientadas a toda a turma.	1	2	3	4	5		
16. Os meus alunos trabalham frequentemente em tarefas do que ouvindo somente o professor.	1	2	3	4	5		
17. Dou tarefas com frequencia, envolvendo pesquisas de pequena escala.	1	2	3	4	5		
18. O meu ensino é mais sobre assuntos práticos.	1	2	3	4	5		
19. Os exemplos que dou sao mais práticos.	1	2	3	4	5		
20. Os meus alunos trabalham mais independentemente.	1	2	3	4	5		
21. Uso metodos e formas de ensino variados.	1	2	3	4	5		
22. Uso material de ensino variado.	1	2	3	4	5		
23. Ênfatiso mais a forma como os problemas devem ser resolvidos do que os problemas em si.	1	2	3	4	5		
24. Gosto de trabalhar de acordo com ideias e métodos testados.	1	2	3	4	5		
25. Sinto-me mais confortavel/seguro quando o meu trabalho vai de acordo com a rotina.	1	2	3	4	5		
26. Não gosto de desviar de um método de trabalho prescrito.	1	2	3	4	5		
27. Gosto de tentar coisas mesmo que às vezes nao levem a nada.	1	2	3	4	5		
28. Experimento diferentes métodos de trabalho.	1	2	3	4	5		
ACTIVIDADES DE APRENDIZAGEM: <i>o grau de auto-desenvolvimento dos professores.</i>							
8. Tomo iniciativas para me desenvolver profissionalmente.	1	2	3	4	5		
9. Mantenho-me informado sobre os desenvolvimentos na ciência educacional.	1	2	3	4	5		
10. Participo em programas de formação, mesmo quando a participação nao e obrigatoria.	1	2	3	4	5		

S/O: Sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
11. Nas minhas aulas experimento vários metodos de ensino.	1	2	3	4	5		
12. Nas minhas aulas uso novos conhecimentos e habilidades.	1	2	3	4	5		
13. Uso as reacções dos alunos para melhorar as minhas práticas de ensino.	1	2	3	4	5		
14. Discuto, com os meus colegas, os problemas que experimento no trabalho.	1	2	3	4	5		
COMPROMETIMENTO DO PROFESSOR: até que ponto o professor gosta da presente escola e ate que ponto se dedica no trabalho.							
7. Aceito e obedeço as normas, regras e regulamentos da escola.	1	2	3	4	5		
8. Esta escola inspira-me e guia-me a trabalhar muito por causa dos seus indices elevados de desempenho.	1	2	3	4	5		
9. Comparada com outras, esta é a melhor escola em que se pode trabalhar.	1	2	3	4	5		
10. Nesta escola são frequentes as vezes que acho dificil concordar com as regras e regulamentos para os professores.	1	2	3	4	5		
11. Tenho vontade de dar mais do que o esperado por forma a conferir sucesso a esta escola.	1	2	3	4	5		
12. Para mim, ja nao ha nada a ganhar em continuar a trabalhar nesta escola.	1	2	3	4	5		

S/O: Sem opinião

4.1 Que práticas não mencionadas gostaria de acrescentar?
4.2 Comente a resposta dada em 4.1.

SECÇÃO 5: LIDERANÇA DO DIRECTOR E DO ADJUNTO-PEDAGÓGICO

5.1 PRÁTICAS DE LIDERANÇA	Classificacao					S/O	Comentarios
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
VISAO E OBJECTIVOS: <i>trabalha para o consenso de todo o corpo docente no estabelecimento e comunicacao das prioridades, objectivos e metas da escola bem como o propósito destes aspectos.</i>							
19. O meu Director e/ou seu Adjunto Pedagógico comunica (m) os propósitos das prioridades e metas da escola.	1	2	3	4	5		
20. O meu Director e/ou seu Adjunto Pedagógico ajuda (m) a esclarecer o significado específico da missão da escola em termos de suas implicações praticas para programas e ensino.	1	2	3	4	5		
21. O meu Director e/ou seu Adjunto Pedagógico comunicam a missão da escola ao corpo docente.	1	2	3	4	5		
22. O meu Director e/ou Adjunto Pedagógico encoraja (m) o desenvolvimento da cultura da escola apoiando a abertura a mudanças.	1	2	3	4	5		
23. O meu Director e/ou Adjunto Pedagógico ajuda (m) o corpo docente a entender o relacionamento entre a missao da escola e iniciativas e políticas de grupos de disciplina e de classe.	1	2	3	4	5		
24. O meu Director e/ou seu Adjunto-Pedagógico trabalha (m) em prol do consenso do corpo docente em estabelecer as prioridades pra os objectivos da escola.	1	2	3	4	5		
CULTURA: Promove uma atmosfera de harmonia e confiança entre o corpo docente, estabelece um tom respeitavel de interaccão com os alunos e demonstra vontade de mudancas de suas praticas a luz de novos entendimentos.							
19. O meu Director e/ou seu Adjunto-Pedagógico mostra (m) respeito pelo corpo docente tratando-os como profissionais.	1	2	3	4	5		
20. O meu Director e/ou seu Adjunto-Pedagógico estabelece (m) um tom de interacção com os alunos.	1	2	3	4	5		
21. O meu Director e/ou seu Adjunto-Pedagógico demonstra (m) vontade para mudar suas praticas a luz de novos entendimentos.	1	2	3	4	5		
22. O meu Director e/ou seu Adjunto-Pedagógico modela (m) tecnicas de solucao de problemas que cada professor pode adaptar para o trabalho com os colegas e com os alunos.	1	2	3	4	5		
23. O meu Director e/ou seu Adjunto-Pedagógico promove (m) um clima de harmonia e confiança no seio do corpo docente.	1	2	3	4	5		
24. O meu Director e/ou seu Adjunto-Pedagógico simbolizam sucesso e realização na profissão de professor.	1	2	3	4	5		

S/O: Sem opiniao

Appendices

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
ESTRUTURA: Apoia a estrutura da escola que promove a tomada de decisão participativa, delegando e distribuindo a liderança para encorajar a autonomia do professor na tomada de decisão.							
19. O meu Director e/ou seu Adjunto-Pedagógico delega (m) a liderança para actividades importantes para alcançar os objectivos da escola.	1	2	3	4	5		
20. O meu Director e/ou seu Adjunto-Pedagógico distribuem a liderança de forma alargada entre os professores com opiniões diferentes em várias posições de liderança.	1	2	3	4	5		
21. O meu Director e/ou seu Adjunto-Pedagógico certificam-se que os professores tem um envolvimento adequado na tomada de decisão em relação a programas e o processo de ensino e aprendizagem.	1	2	3	4	5		
22. O meu Director e/ou seu Adjunto-Pedagógico apoia (m) uma estrutura eficaz para a tomada de decisão.	1	2	3	4	5		
23. O meu Director e/ou seu Adjunto-Pedagógico facilitam uma comunicação eficaz entre os professores.	1	2	3	4	5		
24. O meu Director e/ou seu Adjunto-Pedagógico providencia (m) um nível apropriado de autonomia a professores na sua tomada de decisão.	1	2	3	4	5		
ESTIMULO INTELECTUAL: Encoraja o corpo docente a reflectir no que está a tentar alcançar com os alunos e como estão a fazer-lo, facilita oportunidades para os professores aprenderem uns dos outros e modela aprendizagem contínua na sua própria prática.							
43. O meu Director e/ou seu Adjunto Pedagógico é (são) uma fonte de novas ideias para aprendizagem profissional de cada professor.	1	2	3	4	5		
44. O meu Director e/ou seu Adjunto Pedagógico valoriza (m) o desenvolvimento profissional dos meus professores.	1	2	3	4	5		
45. O meu Director e/ou seu Adjunto Pedagógico estimula (m) cada professor a pensar sobre o que ele/ela faz para seus alunos.	1	2	3	4	5		
46. O meu Director e/ou seu Adjunto Pedagógico cria (m) oportunidades para o desenvolvimento profissional dos professores em lidar com o novo currículo.	1	2	3	4	5		
47. O meu Director e/ou seu Adjunto Pedagógico vê (m) que as actividades de formação dos professores são em harmonia com as actividades de desenvolvimento da escola.	1	2	3	4	5		
48. O meu Director e/ou seu Adjunto Pedagógico encoraja (m) os seus professores a desenvolver/rever objectivos de crescimento profissional individual consistentes com os objectivos, metas e prioridades da escola.	1	2	3	4	5		
49. O meu Director e/ou seu Adjunto Pedagógico encoraja (m) o corpo docente a avaliar suas práticas e refina-las como o desejado.	1	2	3	4	5		

S/O: sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
50. O meu Director e/ou seu Adjunto Pedagógico encoraja (m) e estimula os seus professores a se assistirem mutuamente para se fornecerem feedback.	1	2	3	4	5		
51. O meu Director e/ou seu Adjunto Pedagógico elabora (m) planos para o desenvolvimento profissional.	1	2	3	4	5		
52. O meu Director e/ou seu Adjunto Pedagógico ve (em) se os programas de formação estão a ser seguidos dentro da escola em si.	1	2	3	4	5		
53. O meu Director e/ou seu Adjunto Pedagógico estimula (m) os seus professores a trocarem conhecimentos e habilidades por forma a se ajudarem mutuamente.	1	2	3	4	5		
54. O meu Director e/ou seu Adjunto Pedagógico facilita (m) oportunidades para os professores aprenderem uns dos outros.	1	2	3	4	5		
55. O meu Director e/ou seu Adjunto Pedagógico traz (em) workshops sobre o novo currículo e sobre a abordagem de ensino centrado no aluno para a sua escola onde é confortável para os seus professores participarem.	1	2	3	4	5		
56. O meu Director e/ou seu Adjunto Pedagógico da (o) pessoalmente workshops e partilha (m) informação com os seus professores sobre conferências nas quais participa (m), referentes ao novo currículo e abordagem de ensino centrado no aluno.	1	2	3	4	5		
APOIO INDIVIDUALIZADO: Providencia apoio moral, apreciação o trabalho de cada professor e toma em consideração as opiniões do corpo docente na tomada de decisões.							
37. O meu Director e/ou seu Adjunto Pedagógico da (o) feedback regular a cada professor na implementação do novo currículo e no ensino.	1	2	3	4	5		
38. O meu Director e/ou seu Adjunto Pedagógico visita (m) as aulas de cada professor para fornecer feedback individual.	1	2	3	4	5		
39. Ele (s) encoraja (m) cada professor a tentar novas práticas consistentes com seus próprios interesses.	1	2	3	4	5		
40. O meu Director e/ou seu Adjunto Pedagógico estimula (m) os professores a tentar novos métodos didáticos especialmente a abordagem centrada no aluno.	1	2	3	4	5		
41. O meu Director e/ou seu Adjunto Pedagógico encoraja (m) cada professor a definir seus próprios objectivos para a aprendizagem profissional.	1	2	3	4	5		
42. O meu Director e/ou seu Adjunto Pedagógico faz (em) uma crítica construtiva aos seus professores na abordagem do novo currículo e na abordagem de ensino centrado no aluno.	1	2	3	4	5		
43. O meu Director e/ou seu Adjunto Pedagógico leva (m) em consideração a opinião de cada professor ao iniciar acções que afectem o seu trabalho.	1	2	3	4	5		
44. O meu Director e/ou seu Adjunto Pedagógico esta (o) consciente das necessidades e pericia de cada professor.	1	2	3	4	5		

S/O: sem opinião

	Classificação					S/O	Comentários
	Discordo fortemente	Discordo parcialmente	Dividido	Concordo parcialmente	Concordo fortemente		
45. O meu Director e/ou seu Adjunto Pedagógico e (sao) inclusivo (s); não mostra (m) favoritismo a um individuo ou a um grupo.	1	2	3	4	5		
46. O meu Director e/ou seu Adjunto Pedagógico da (o) apoio moral fazendo com que cada professor se sinta apreciado pela contribuição que dá à escola.	1	2	3	4	5		
47. Quando recebe (m) novos professores O meu Director e/ou seu Adjunto Pedagógico informa (m)-lhes que quer (m) que se envolvam activamente na tomada de decisão em relação ao novo currículo e métodos de ensino.	1	2	3	4	5		
48. O meu Director e/ou seu Adjunto Pedagógico faz (em) com que os seus professores saibam que são responsáveis por todos os alunos e não somente pelas suas turmas.	1	2	3	4	5		
EXPECTATIVAS DE DESEMPENHO: Tem expectativas altas em relação aos professores e aos alunos e espera que os professores sejam eficazes, eficientes e inovadores.							
10. O meu Director e/ou seu Adjunto Pedagógico tem expectativas altas em relação aos professores como profissionais.	1	2	3	4	5		
11. O meu Director e/ou seu Adjunto Pedagógico tem expectativas altas em relação aos alunos.	1	2	3	4	5		
12. O meu Director e/ou seu Adjunto Pedagógico espera (m) que os professores sejam inovadores efectivos.	1	2	3	4	5		

S/O: sem opinião

5.2 Que práticas não mencionadas gostaria de acrescentar?
5.3 Comente a resposta dada em 5.2

**Muito obrigado pela colaboração.
Receberá os resultados desta pesquisa.**

Appendix C1: Reliability of the scales used

List of items used per scale (school leaders)

Concerns about competencies

1. All these changes and curriculum and teaching innovations make me feel like I am losing control of my profession as a principal or vice-principal
2. Because of all the changes in the field of curriculum and teaching at the time I don't know where I am as a principal or vice-principal
3. Because of all the changes in curriculum and teaching at the time I increasingly doubt my capacity to practice my profession
4. Because of all the changes in curriculum and teaching at the time I feel left to my own devices
5. Because of all the educational developments in the field of curriculum and teaching I no longer know what teaching should be about

Educational task orientation

Note: deviating response categories (not important – little important – in between – important – very important)

1. Working on improving curriculum
2. Introduce new educational ideas
3. Helping students mentoring
4. Helping to create an orderly and task-oriented atmosphere
5. Taking care of teacher training
6. Coordinating education
7. Coaching individual teachers
8. Carrying out observations in the classroom

Administrative task orientation

1. Taking care of money
2. Prepare information for the school boarder or district office
3. Taking care of financial resources
4. Taking care of the building
5. Write letters
6. Taking care of the administration
7. Scheduling

Values

1. A student centred approach is valuable in the Mozambican school context
2. I agree with the on task teaching approach
3. I agree with the on task teaching approach involving small-scale research
4. I agree with the use of practical examples in lessons
5. I agree with the approach of independent learning

Appendices

6. I agree with the use of more varied teaching methods and instructional formats
7. I agree with the use more varied teaching materials
8. I agree with the placement of more emphasis on the way problems should be dealt with instead of the problem itself

Support from provincial and district office

1. I receive sufficient information about the purpose of change
2. I receive sufficient information about how to implement change
3. I receive from provincial and district directorate resources, information, training, moral support, supervision and inspection to implement changes
4. My supervisors provide possibilities to help teachers in curriculum implementation and student centred teaching approach
5. My supervisors provide direct information about the changes needed in the field of well curriculum and teaching
6. My supervisors check how well I am implementing the changes in curriculum
7. My supervisors provide feedback about my role as school leader in implementing the change
8. I think that my supervisors are interested in changes related to curriculum and teaching
9. I have confidence in my supervisors to help me to implement changes in the field of curriculum and teaching

Task autonomy

1. I can decide myself how I carry out my work
2. I can share in making decisions about the time when something must be finished
3. I can decide myself how much time I spend on a particular activity

Changed teaching practices

1. Our pupils have to work on tasks more frequently (instead of listening to the teacher)
2. My teachers more frequently give pupils tasks involving small-scale research
3. Our teaching is more about practical matters
4. The examples that my teachers give are more practical
5. Our pupils work more autonomously
6. My teachers use more varied teaching methods and instructional formats
7. My teachers use more varied teaching materials
8. My teachers place more emphasis on the way problems should be dealt with instead of the problem itself

Work pace and workload

1. I have to work very fast
2. I have a lot of work to do
3. I have to work especially hard to finish something
4. I would like to be able to do my work at a more leisurely pace

Vision and goals

1. I give staff a sense of overall purpose
2. I help clarify the specific meaning of the school's mission in terms of its practical implications for programs and instruction
3. I communicate school mission to staff
4. I encourage the development of school culture supporting openness to change
5. I help the staff understand the relationship between their school's mission and the subject's/grade's groups initiatives and policies
6. I work toward whole staff consensus in establishing priorities for school goals

Culture

1. I show respect for staff by treating them as professionals
2. I set a respectful tone for interaction with students
3. I demonstrate a willingness to change my own practices in light of new understandings
4. I model problem-solving techniques that each teacher can readily adapt for work with colleagues and students
5. I promote an atmosphere of caring and trust among staff
6. I symbolise success and accomplishment within teacher's profession

Structure

1. I delegate leadership for activities critical for achieving school goals
2. I distribute leadership broadly among the staff representing various viewpoints in leadership positions
3. I ensure that teachers have adequate involvement in decision making related to programs and instructions
4. I support an effective committee structure for decision making
5. I facilitate effective communication among staff
6. I provide an appropriate level of autonomy for teachers in their own decision making

Intellectual stimulation

1. I am a source of new ideas for each teacher's professional learning
2. I value the professional development of my teachers
3. I stimulate each teacher to think about what he or she is doing for his or her students
4. I create opportunities for teachers to develop professionally in dealing with the new curriculum
5. I see that teacher training activities are in harmony with school development activities
6. I encourage my staff to develop/review individual professional growth goals consistent with school goals and priorities
7. I encourage staff to evaluate their practices and refine them as needed
8. I encourage and stimulate my teachers to visit each other's classes to provide each other with feedback
9. I create plans for the professional development
10. I see that training programs are followed up within the school itself

Appendices

11. I stimulate my teachers to exchange knowledge and skills in order to help each other
12. I facilitate opportunities for staff to learn from each other
13. I bring workshops about new curriculum and student centred approach to my school where it's comfortable for teachers to participate
14. I give workshops myself and I share information with my teachers on conferences that I attend related to new curriculum and student centred teaching approach

Individualized support

1. I give regular feedback to my teacher in curriculum implementation and teaching
2. I visit each teacher's classes to provide each teacher with feedback
3. I encourage each teacher to try new practices consistent with his or her own interests
4. I stimulate my teachers to try out new didactic methods especially student centred approach
5. I encourage each teacher to pursue his or her own goals for professional learning
6. I give constructive criticism to my teachers in dealing with the new curriculum and student centred teaching approach
7. I take opinion of each teacher into consideration when initiating actions that affect his or her work
8. I am aware of each teacher's unique needs and expertise
9. I am inclusive; I do not show favouritism toward individuals or groups
10. I provide moral support by making each teacher feel appreciated for his or her contribution to the school
11. When hiring new teachers, I let them know I want them actively involved in school decision-making on new curriculum and teaching methods
12. I let teachers know they are responsible for all students, not just their own classes

Performance expectations

1. I have high expectations for teachers as professionals
2. I have high expectations for students
3. I expect teachers to be effective innovators

List of items used per scale (teachers)

Concerns about competencies

1. All these changes and curriculum and teaching innovations make me feel like I am losing control of my profession as a teacher
2. Because of all the changes in the field of curriculum and teaching at the time I don't know where I am as a teacher
3. Because of all the changes in curriculum and teaching at the time I increasingly doubt my capacity to practice my profession
4. Because of all the changes in curriculum and teaching at the time I feel left to my own devices
5. Because of all the educational developments in the field of curriculum and teaching I no longer know what teaching should be about

Task orientation

1. I am responsible not only for my own performance but also for that of a team
2. I can learn from my mistakes
3. It has advantages to share your knowledge with others
4. I enjoy helping colleagues
5. I enjoy sharing my knowledge with other people

Values

1. A student centred approach is valuable in the Mozambican school context
2. I agree with the on task teaching approach
3. I agree with the on task teaching approach involving small-scale research
4. I agree with the use of practical examples in my lessons
5. I agree with the approach of independent learning
6. I agree with the use of more varied teaching methods and instructional formats
7. I agree with the use more varied teaching materials
8. I agree with the placement of more emphasis on the way problems should be dealt with instead of the problem itself

Support from school leaders and other supervisors

1. I receive sufficient information about the purpose of change
2. I receive sufficient information about how to implement changes
3. I receive sufficient information about student centred teaching principles
4. I ask my principal for feedback
5. I receive from my supervisors resources, information, training, moral support, supervision and inspection to implement changes
6. I receive sufficient information about the results of my work
7. My supervisors provide possibilities to find out how well I am dealing with the new curriculum
8. My supervisors check how well I am implementing the changes in curriculum
9. My supervisors provide direct information about how well I am dealing with the new curriculum
10. My supervisors give me information about how well I am using the student centred teaching approach
11. I think that principal and vice-principal are interested in changes related to curriculum and teaching
12. I have confidence in principal and vice-principals to help me to implement changes in the field of curriculum and teaching

Policy and evaluation

1. In this school we have agreement upon rules with respect to our teaching activities
2. We agreed upon rules about the number of “common tests” each subject group and grade takes per school year
3. In this school we plan our teaching and assessment activities
4. In this school we have agreement on how to assess students

Appendices

5. In this school we have “common tests” to standardise the goal and content of teaching
6. In this school results on “common” tests are feedback to us in order to improve teaching and learning
7. In this school we have evaluation rules
8. In this school we have school policy document
9. In this school we have agreement upon rules on the nature and content of testing
10. In this school we agreed upon rules on the pace of teaching and the teaching content
11. In this school we have agreement upon rules related to aspects of didactics of teaching

Consultation and cooperation among teachers

1. I can always turn to my colleagues with problems and questions
2. My colleagues are willing to discuss new didactical methods with me
3. My colleagues are willing to give feedback on the way I teach if requested
4. My colleagues support me in trying out new methods
5. My colleagues tell me about their problems and solutions
6. My colleagues pass on their learning experiences after participation in training programs
7. I have to consult colleagues a lot of my work
8. I consult my colleagues about planning teaching activities
9. I have to contact with my colleagues about the pace of teaching and the teaching content
10. I consult my colleagues about the nature and content of testing
11. We exchange experiences with schools that are facing similar problems
12. We spent time on reflecting jointly on our goals
13. We jointly reflect on what has to be unlearned
14. In this school we review what has gone well and what has not regarding to teaching approach
15. In this school we look for the causes of success and failure in implementing the new curriculum
16. In this school time is reserved to make plans for improvements

Consensus

1. Teachers share the same views about tasks and functions of the school
2. It is easy to reach consensus about the goals of teaching
3. Within this school we have the same ideas about how to teach
4. Ideas about good teaching are shared by most teachers
5. We agree with the use of mother tongue instruction
6. We agree with the goals of inclusion of local content in the new curriculum
7. We agree with the way of teaching local content
8. If we want to change the teaching methods we agree easily
9. In this school we have similar goals regarding how to deal with students
10. In this school there are conflicts about new curriculum and new teaching approach

Decision-making

1. Plans for the new curriculum are discussed with the entire teaching staff at our school
2. I can influence the plans being made at our school for the implementation of the new curriculum
3. I have the space to implement the student centred methods in my classroom according to my own judgement and insights
4. At our school, the experiences of teachers play a role in the formulation of a plan for the implementation of the new curriculum
5. During the implementation of the new curriculum at our school, the problems that I may experience in doing this are taken into consideration

Changed teaching practices

1. My pupils have to work on tasks more frequently (instead of listening to the teacher)
2. I more frequently give pupils tasks involving small-scale research
3. My teaching is more about practical matters
4. The examples that I give are more practical
5. My pupils work more autonomously
6. I use more varied teaching methods and instructional formats
7. I use more varied teaching materials
8. I place more emphasis on the way problems should be dealt with instead of the problem itself

Teachers' desire to teach according to traditional methods

1. I like to work according to tried and tested ideas or methods
2. I feel comfortable when my work goes according to a fixed routine
3. I do not like to deviate from the prescribed working method

Learning activities

1. I keep myself informed on developments within educational science
2. Even if participation is not obligatory, I participate in training programs
3. In my lessons I experiment with various didactic methods
4. I use new knowledge and skills in my lessons
5. I use the reactions of the pupils to improve my teaching practices
6. I discuss the problems that I experience at work with my colleagues

Teacher commitment

1. I accept and obey the norms, rules and regulations set by the school
2. This school inspires and drives me to work hard due to its high standards of academic performance
3. Comparing with other schools, for me this is the best school to work for and teach
4. I have willingness to put in a great deal of effort beyond what is normally expected in order to help this school be successful

Vision and goals

1. My principal and/or vice-principal give(s) staff a sense of overall purpose
2. My principal and/or vice-principal help(s) clarify the specific meaning of the school's mission in terms of its practical implications for programs and instruction
3. My principal and/or vice-principal communicate(s) school mission to staff
4. My principal and/or vice-principal encourage(s) the development of school culture supporting openness to change
5. My principal and/or vice-principal help(s) the staff understand the relationship between their school's mission and the subject's/grade's groups initiatives and policies
6. My principal and/or vice-principal work(s) toward whole staff consensus in establishing priorities for school goals

Culture

1. My principal and/or vice-principal show(s) respect for staff by treating them as professionals
2. My principal and/or vice-principal set(s) a respectful tone for interaction with students
3. My principal and/or vice-principal demonstrate(s) willingness to change his or her (their) own practices in light of new understandings
4. My principal and/or vice-principal model(s) problem-solving techniques that each teacher can readily adapt for work with colleagues and students
5. My principal and/or vice-principal promote(s) an atmosphere of caring and trust among staff
6. My principal and/or vice-principal symbolise(s) success and accomplishment within teacher's profession

Structure

1. My principal and/or vice-principal delegate(s) leadership for activities critical for achieving school goals
2. My principal and/or vice-principal distribute(s) leadership broadly among the staff representing various viewpoints in leadership positions
3. My principal and/or vice-principal ensure(s) that teachers have adequate involvement in decision making related to programs and instructions
4. My principal and/or vice-principal support(s) an effective committee structure for decision making
5. My principal and/or vice-principal facilitate(s) effective communication among staff
6. My principal and/or vice-principal provide(s) an appropriate level of autonomy for teachers in their own decision making

Intellectual stimulation

1. My principal and/or vice-principal is (are) a source of new ideas for each teacher's professional learning
2. My principal and/or vice-principal value (s) the professional development of teachers
3. My principal and/or vice-principal stimulate(s) each teacher to think about what he or she is doing for his or her students

4. My principal and/or vice-principal create(s) opportunities for teachers to develop professionally in dealing with the new curriculum
5. My principal and/or vice-principal see(s) that teacher training activities are in harmony with school development activities
6. My principal and/or vice-principal encourage(s) staff to develop/review individual professional growth goals consistent with school goals and priorities
7. My principal and/or vice-principal encourage(s) staff to evaluate their practices and refine them as needed
8. My principal and/or vice-principal encourage(s) and stimulate(s) teachers to visit each other's classes to provide each other with feedback
9. My principal and/or vice-principal create (s) plans for the professional development
10. My principal and/or vice-principal see (s) that training programs are followed up within the school itself
11. My principal and/or vice-principal stimulate(s) teachers to exchange knowledge and skills in order to help each other
12. My principal and/or vice-principal facilitate(s) opportunities for staff to learn from each other
13. My principal and/or vice-principal bring(s) workshops about new curriculum and student centred approach to school where it's comfortable for teachers to participate
14. My principal and/or vice-principal give(s) workshops him or herself (themselves) and he or her (they) share(s) information with teachers on conferences that he or her (they) attend(s) related to new curriculum and student centred teaching approach

Individualized support

1. My principal and/or vice-principal give(s) regular feedback to teacher in curriculum implementation and teaching
2. My principal and/or vice-principal visit(s) each teacher's classes to provide each teacher with feedback
3. My principal and/or vice-principal encourage(s) each teacher to try new practices consistent with his or her own interests
4. My principal and/or vice-principal stimulate(s) teachers to try out new didactic methods especially student centred approach
5. My principal and/or vice-principal give (s) constructive criticism to teachers in dealing with the new curriculum and student centred teaching approach
6. My principal and/or vice-principal encourage(s) each teacher to pursue his or her own goals for professional learning
7. My principal and/or vice-principal take(s) opinion of each teacher into consideration when initiating actions that affect his or her work
8. My principal and/or vice-principal is (are) aware of each teacher's unique needs and expertise
9. My principal and/or vice-principal is (are) inclusive; he or she (they) do not show (s) favouritism toward individuals or groups
10. My principal and/or vice-principal provide (s) moral support by making each teacher feel appreciated for his or her contribution to the school

Appendices

11. When hiring new teachers, my principal and/or vice-principal let them know he or she (they) want(s) them actively involved in school decision-making on new curriculum and teaching methods
12. My principal and/or vice-principal let teachers know they are responsible for all students, not just their own classes

Performance expectations

1. My principal and/or vice-principal has (have) high expectations for teachers as professionals
2. My principal and/or vice-principal has (have) high expectations for students
3. My principal and/or vice-principal expect(s) teachers to be effective innovators

Appendix C2: Reliability of the research instruments - school leader questionnaire

- Reliability determined by Cronbach's alpha (0.6 or higher)
- Poorly fitting items removed

Section 3: Educational changes

Concerns about competencies

Removed 4 items: Concerns 1-4

Remain 5 items: Concerns 5-9 - Cronbach's alpha (.751)

Task orientation (2 scales)

Educational task orientation

8 items: 1, 4, 6, 7, 9, 12, 14, 15 - Cronbach's alpha (.697)

Administrative task orientation

7 items: 2, 3, 5, 8, 10, 11, 13 - Cronbach's alpha (.816)

Values

Removed 1 item: values 2

Remain 8 items: values 1, 3 – 9 – Cronbach's alpha (.685)

Support from provincial and district office

Removed: no items removed – Cronbach's alpha (.858)

Remain 9 items: Support 1-9

Task autonomy

Removed 2 items: Task autonomy 1 and 2

Remain 3 items: Task autonomy 3-5 - Cronbach's alpha (.670)

Changed teaching practices

Removed 4 items: 1, 10-12

Remain 8 items: Changed teaching practices 2-9 - Cronbach's alpha (.750)

***Workpace and workload**

Removed 2 items: 4, 5

Remain 4 items: 1-3, 6 - Cronbach's alpha (.583)

**Section 4: Principal and vice-principal's leadership
Leadership practices**

Vision and goals

Removed: no items removed – Cronbach's alpha (.869)

Remain 6 items: Vision and goals 1-6

Culture

Removed: no items removed – Cronbach's alpha (.709)

Remain 6 items: Culture 1-6

Structure

Removed: no items removed - Cronbach's alpha (.701)

Remain 6 items: Structure 1-6

Intellectual stimulation

Removed: no items removed – Cronbach's alpha (.834)

Remain 14 items: Intellectual stimulation 1-14

Individualized support

Removed: no items removed – Cronbach's alpha (.679)

Remain 12 items: Individualized support 1-12

Performance expectations

Removed: no items removed – Cronbach's alpha (.665)

Remain 3 items: Performance expectations 1-3

Appendix C3: Reliability of the research instruments – teachers' questionnaire

- Reliability determined by Cronbach's alpha (0.7 or higher)
- Poorly fitting items removed

Section 2: Educational changes

Concerns about competencies

Removed 4 items: concerns 1-4

Remain 5 items: concerns 5- 9 - Cronbach's alpha (.785)

Task orientation

Removed 4 items: Task orientations 1, 3, 4, and 8

Remain 5 items: task orientations 2, 5, 6, 7, and 9 – Cronbach's alpha (.752)

Values

Removed 1 item: values 2

Remain 8 items: values 1, 3 – 9 – Cronbach's alpha (.761)

Support from school leaders and other supervisors

Removed: no items removed – Cronbach's alpha (.880)

Remain 12 items: Support 1-12

Section 3: Professional learning communities

Policy and evaluation

Removed: no items removed – Cronbach's alpha (.836)

Remain 11 items: Policy 1-11

Consultation and cooperation

Removed 2 items: 4 and 7

Remain 16 items: Consultation and cooperation 1-3, 5, 6, 8-18 - Cronbach's alpha (.862)

Consensus

Removed 1 item: Consensus 1

Remain 10 items: Consensus 2-11 - Cronbach's alpha (.784)

Decision-making

Removed 1 item: decision-making 5

Remain 5 items: decision making 1-4, and 6 – Cronbach's alpha (.780)

Section 4: Teachers development activities

Changed teaching practices

Removed 3 items: 1, 13, 14

Remain 8 items: Changed practices 2-9 - Cronbach's alpha (.852)

Resistance to changing teaching practice

Remain 3 items: 10, 11, 12 - Cronbach's alpha (.610)

Learning activities

Removed 1 item: learning activities 1

Remain 6 items: learning activities 2-7 – Cronbach's alpha (.841)

***Teacher commitment**

Removed 2 items: 4 and 6

Remain 4 items: 1, 2, 3 and 5 - Cronbach's alpha (.587)

**Section 5: Principal and vice-principal's leadership
Leadership practices**

Vision and goals

Removed: no items removed – Cronbach's alpha (.883)

Remain 6 items: Vision and goals 1-6

Culture

Removed: no items removed – Cronbach's alpha (.847)

Remain 6 items: Culture 1-6

Structure

Removed: no items removed – Cronbach's alpha (.856)

Remain 6 items: Structure 1-6

Intellectual stimulation

Removed: no items removed – Cronbach's alpha (.912)

Remain 14 items: Intellectual stimulation 1-14

Individualized support

Removed: no items removed – Cronbach's alpha (.836)

Remain 12 items: Individualized support 1-12

Performance expectations

Removed: no items removed – Cronbach's alpha (.775)

Remain 3 items: Performance expectations 1-3

Appendix D: background information (school leaders and teachers)**Table 1:** Number of participating school leaders by province and function

			School leader function		Total
			Principal	Vice-principal	
School province	Maputo-City	Count	14	19	33
		% within School province	42,4%	57,6%	100,0%
		% within S leader function	16,9%	22,1%	19,5%
		% of Total	8,3%	11,2%	19,5%
	Maputo-Province	Count	21	19	40
		% within School province	52,5%	47,5%	100,0%
		% within S leader function	25,3%	22,1%	23,7%
		% of Total	12,4%	11,2%	23,7%
	Nampula	Count	19	16	35
		% within School province	54,3%	45,7%	100,0%
		% within S leader function	22,9%	18,6%	20,7%
		% of Total	11,2%	9,5%	20,7%
	Zambezia	Count	17	18	35
		% within School province	48,6%	51,4%	100,0%
		% within S leader function	20,5%	20,9%	20,7%
		% of Total	10,1%	10,7%	20,7%
Cabo Delgado	Count	12	14	26	
	% within School province	46,2%	53,8%	100,0%	
	% within S leader function	14,5%	16,3%	15,4%	
	% of Total	7,1%	8,3%	15,4%	
Total	Count	83	86	169	
	% within School province	49,1%	50,9%	100,0%	
	% within S leader function	100,0%	100,0%	100,0%	
	% of Total	49,1%	50,9%	100,0%	

Table 2: Number of participating school leaders by function and gender

School leader function * School leader sex Crosstabulation

			School leader sex		
			Male	Female	Total
School leader function	Principal	Count	48	35	83
		% within S leader function	57.8%	42.2%	100.0%
		% within S leader sex	47.1%	52.2%	49.1%
		% of Total	28.4%	20.7%	49.1%
	Vice-principal	Count	54	32	86
		% within S leader function	62.8%	37.2%	100.0%
		% within S leader sex	52.9%	47.8%	50.9%
		% of Total	32.0%	18.9%	50.9%
	Total	Count	102	67	169
		% within S leader function	60.4%	39.6%	100.0%
		% within S leader sex	100.0%	100.0%	100.0%
		% of Total	60.4%	39.6%	100.0%

Table 3: School leader experience by province

School leader experience (4 categories) * School province Crosstabulation

			School province					Total
			Maputo-City	Maputo-Province	Nampula	Zambezia	Cabo Delgado	
School leader experience	0 years	Count	8	4	6	4	7	29
		% within School leader experience	27.6%	13.8%	20.7%	13.8%	24.1%	100.0%
		% within School province	24.2%	10.0%	17.1%	11.4%	26.9%	17.2%
		% of Total	4.7%	2.4%	3.6%	2.4%	4.1%	17.2%
	1 year	Count	8	7	6	8	1	30
		% within School leader experience	26.7%	23.3%	20.0%	26.7%	3.3%	100.0%
		% within School province	24.2%	17.5%	17.1%	22.9%	3.8%	17.8%
		% of Total	4.7%	4.1%	3.6%	4.7%	.6%	17.8%
	2-3 years	Count	10	20	13	11	8	62
		% within School leader experience	16.1%	32.3%	21.0%	17.7%	12.9%	100.0%
		% within School province	30.3%	50.0%	37.1%	31.4%	30.8%	36.7%
		% of Total	5.9%	11.8%	7.7%	6.5%	4.7%	36.7%
	4 years or more	Count	7	9	10	12	10	48
		% within School leader experience	14.6%	18.8%	20.8%	25.0%	20.8%	100.0%
		% within School province	21.2%	22.5%	28.6%	34.3%	38.5%	28.4%
		% of Total	4.1%	5.3%	5.9%	7.1%	5.9%	28.4%
Total	Count	33	40	35	35	26	169	
	% within School leader experience	19.5%	23.7%	20.7%	20.7%	15.4%	100.0%	
	% within School province	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	19.5%	23.7%	20.7%	20.7%	15.4%	100.0%	

Table 4 School leader experience vs training

School leader experience (4 categories) * EAM Crosstabulation

			EAM		
			Received no EAM	Did receive EAM	Total
School leader experience	0 years	Count	15	14	29
		% within School leader experience	51.7%	48.3%	100.0%
		% within EAM	23.4%	13.3%	17.2%
		% of Total	8.9%	8.3%	17.2%
	1 year	Count	16	14	30
		% within School leader experience	53.3%	46.7%	100.0%
		% within EAM	25.0%	13.3%	17.8%
		% of Total	9.5%	8.3%	17.8%
	2-3 years	Count	21	41	62
		% within School leader experience	33.9%	66.1%	100.0%
		% within EAM	32.8%	39.0%	36.7%
		% of Total	12.4%	24.3%	36.7%
	4 years or more	Count	12	36	48
		% within School leader experience	25.0%	75.0%	100.0%
		% within EAM	18.8%	34.3%	28.4%
		% of Total	7.1%	21.3%	28.4%
Total	Count	64	105	169	
	% within School leader experience	37.9%	62.1%	100.0%	
	% within EAM	100.0%	100.0%	100.0%	
	% of Total	37.9%	62.1%	100.0%	

Table 5 School leaders' qualifications by province

School province * School leader Qualifications Crosstabulation

			School leader Qualifications		Total
			Basic or secondary education	Bachelor, Licenciatura or Masters	
School province	Maputo-City	Count	20	13	33
		% within School province	60,6%	39,4%	100,0%
		% within Qualifications	14,1%	48,1%	19,5%
	Maputo-Province	Count	35	5	40
		% within School province	87,5%	12,5%	100,0%
		% within Qualifications	24,6%	18,5%	23,7%
	Nampula	Count	30	5	35
		% within School province	85,7%	14,3%	100,0%
		% within Qualifications	21,1%	18,5%	20,7%
	Zambezia	Count	31	4	35
		% within School province	88,6%	11,4%	100,0%
		% within Qualifications	21,8%	14,8%	20,7%
	Cabo Delgado	Count	26	0	26
		% within School province	100,0%	,0%	100,0%
		% within Qualifications	18,3%	,0%	15,4%
Total	Count	142	27	169	
	% within School province	84,0%	16,0%	100,0%	
	% within Qualifications	100,0%	100,0%	100,0%	

Table 6 School leader specialisation by province

School province * Specialisation Crosstabulation

			Specialisation				
			teacher training	general education	school management training	others	Total
School province	Maputo-City	Count	28	0	4	1	33
		% within School province	84.8%	.0%	12.1%	3.0%	100.0%
		% within Specialisation	20.6%	.0%	44.4%	12.5%	19.5%
		% of Total	16.6%	.0%	2.4%	.6%	19.5%
	Maputo-Province	Count	30	9	1	0	40
		% within School province	75.0%	22.5%	2.5%	.0%	100.0%
		% within Specialisation	22.1%	56.2%	11.1%	.0%	23.7%
		% of Total	17.8%	5.3%	.6%	.0%	23.7%
	Nampula	Count	31	2	2	0	35
		% within School province	88.6%	5.7%	5.7%	.0%	100.0%
		% within Specialisation	22.8%	12.5%	22.2%	.0%	20.7%
		% of Total	18.3%	1.2%	1.2%	.0%	20.7%
Zambezia	Count	28	4	2	1	35	
	% within School province	80.0%	11.4%	5.7%	2.9%	100.0%	
	% within Specialisation	20.6%	25.0%	22.2%	12.5%	20.7%	
	% of Total	16.6%	2.4%	1.2%	.6%	20.7%	
Cabo Delgado	Count	19	1	0	6	26	
	% within School province	73.1%	3.8%	.0%	23.1%	100.0%	
	% within Specialisation	14.0%	6.2%	.0%	75.0%	15.4%	
	% of Total	11.2%	.6%	.0%	3.6%	15.4%	
Total	Count	136	16	9	8	169	
	% within School province	80.5%	9.5%	5.3%	4.7%	100.0%	
	% within Specialisation	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	80.5%	9.5%	5.3%	4.7%	100.0%	

Table 7: Participating teachers by province and gender**School province * Teacher sex Crosstabulation**

			Teacher sex		Total
			Male	Female	
School province	Maputo-City	Count	48	72	120
		% within School province	40,0%	60,0%	100,0%
		% within teacher sex	18,7%	27,6%	23,2%
		% of Total	9,3%	13,9%	23,2%
	Maputo-Province	Count	65	57	122
		% within School province	53,3%	46,7%	100,0%
		% within teacher sex	25,3%	21,8%	23,6%
		% of Total	12,5%	11,0%	23,6%
	Nampula	Count	56	41	97
		% within School province	57,7%	42,3%	100,0%
		% within teacher sex	21,8%	15,7%	18,7%
		% of Total	10,8%	7,9%	18,7%
	Zambezia	Count	41	57	98
		% within School province	41,8%	58,2%	100,0%
		% within teacher sex	16,0%	21,8%	18,9%
		% of Total	7,9%	11,0%	18,9%
Cabo Delgado	Count	47	34	81	
	% within School province	58,0%	42,0%	100,0%	
	% within teacher sex	18,3%	13,0%	15,6%	
	% of Total	9,1%	6,6%	15,6%	
Total	Count	257	261	518	
	% within School province	49,6%	50,4%	100,0%	
	% within teacher sex	100,0%	100,0%	100,0%	
	% of Total	49,6%	50,4%	100,0%	

Table 8: Teacher experience by province

Teacher experiences (4 categories) * School province Crosstabulation

			School province					
			Maputo-City	Maputo-Province	Nampula	Zambezia	Cabo Delgado	Total
Teacher experiences	0-2 years	Count	7	17	20	27	27	98
		% within Teacher experiences	7.1%	17.3%	20.4%	27.6%	27.6%	100.0%
		% within School province	5.8%	13.9%	20.6%	27.6%	33.3%	18.9%
		% of Total	1.4%	3.3%	3.9%	5.2%	5.2%	18.9%
	3-5 years	Count	10	16	12	18	23	79
		% within Teacher experiences	12.7%	20.3%	15.2%	22.8%	29.1%	100.0%
		% within School province	8.3%	13.1%	12.4%	18.4%	28.4%	15.3%
		% of Total	1.9%	3.1%	2.3%	3.5%	4.4%	15.3%
	6-11 years	Count	44	78	46	23	24	215
		% within Teacher experiences	20.5%	36.3%	21.4%	10.7%	11.2%	100.0%
		% within School province	36.7%	63.9%	47.4%	23.5%	29.6%	41.5%
		% of Total	8.5%	15.1%	8.9%	4.4%	4.6%	41.5%
12 years or more	Count	59	11	19	30	7	126	
	% within Teacher experiences	46.8%	8.7%	15.1%	23.8%	5.6%	100.0%	
	% within School province	49.2%	9.0%	19.6%	30.6%	8.6%	24.3%	
	% of Total	11.4%	2.1%	3.7%	5.8%	1.4%	24.3%	
Total	Count	120	122	97	98	81	518	
	% within Teacher experiences	23.2%	23.6%	18.7%	18.9%	15.6%	100.0%	
	% within School province	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	23.2%	23.6%	18.7%	18.9%	15.6%	100.0%	

Table 9: Teacher qualifications by province

			Teacher qualifications		Total
			Basic or secondary education	Bachelor or Licenciatura	
School province	Maputo-City	Count	96	24	120
		% within School province	80,0%	20,0%	100,0%
		% within Teacher qualifications	20,0%	61,5%	23,2%
	Maputo-Province	Count	113	9	122
		% within School province	92,6%	7,4%	100,0%
		% within Teacher qualifications	23,6%	23,1%	23,6%
	Nampula	Count	95	2	97
		% within School province	97,9%	2,1%	100,0%
		% within Teacher qualifications	19,8%	5,1%	18,7%
	Zambezia	Count	94	4	98
		% within School province	95,9%	4,1%	100,0%
		% within Teacher qualifications	19,6%	10,3%	18,9%
Cabo Delgado	Count	81	0	81	
	% within School province	100,0%	0,0%	100,0%	
	% within Teacher qualifications	16,9%	0,0%	15,6%	
Total	Count	479	39	518	
	% within School province	92,5%	7,5%	100,0%	
	% within Teacher qualifications	100,0%	100,0%	100,0%	

Table 10: Teacher experience vs. Specialisation

Teacher experiences (4 categories) * Teacher specialisation recoded Crosstabulation

			Teacher specialisation			
			teacher training	general education	others	Total
Teacher experiences	0-2 years	Count	67	23	8	98
		% within Teacher experiences	68.4%	23.5%	8.2%	100.0%
		% within Teacher specialisation	17.4%	24.0%	21.1%	18.9%
		% of Total	12.9%	4.4%	1.5%	18.9%
	3-5 years	Count	55	16	8	79
		% within Teacher experiences	69.6%	20.3%	10.1%	100.0%
		% within Teacher specialisation	14.3%	16.7%	21.1%	15.3%
		% of Total	10.6%	3.1%	1.5%	15.3%
	6-11 years	Count	179	29	7	215
		% within Teacher experiences	83.3%	13.5%	3.3%	100.0%
		% within Teacher specialisation	46.6%	30.2%	18.4%	41.5%
		% of Total	34.6%	5.6%	1.4%	41.5%
12 years or more	Count	83	28	15	126	
	% within Teacher experiences	65.9%	22.2%	11.9%	100.0%	
	% within Teacher specialisation	21.6%	29.2%	39.5%	24.3%	
	% of Total	16.0%	5.4%	2.9%	24.3%	
Total	Count	384	96	38	518	
	% within Teacher experiences	74.1%	18.5%	7.3%	100.0%	
	% within Teacher specialisation	100.0%	100.0%	100.0%	100.0%	
	% of Total	74.1%	18.5%	7.3%	100.0%	

Table 11: Teacher academic qualifications for the total population of teachers in primary education in Mozambique, 2008

	Total teachers			Basic or secondary education			Bachelor or licenciatura			Others (foreign + others)		
	F	FM	%F	F	FM	%F	F	FM	%F	F	FM	%F
EP1	20938	56609	36.9	19200	52370	36.7	42	100	42	1696	4139	40.9
%					92.5			0.2			7.3	
EP2	5040	17281	29.2	4580	15577	29.4	77	255	30.2	383	1449	26.4
%					90.1			1.5			8.4	
EP1+EP2	25978	73890	35.2	23780	67947	34.9	119	355	33.5	2079	5588	37.2
%					91.9			0.5			7.6	

Source: Author's calculation from available data in DIPLAC Ministry of Education

Table 12: Teacher training for the total population of teachers in primary education in Mozambique, 2008

	Total teachers			With teacher training			Without teacher training		
	F	FM	%F	F	FM	%F	F	FM	%F
EP1	20938	56609	36.9	14863	36041	41.2	6075	20568	29.5
%					63.7			36.3	
EP2	5040	17281	29.2	4271	13394	31.9	769	3887	19.8
%					77.5			22.5	
EP1+EP2	25978	73890	35.2	19134	49435	38.7	6844	24455	27.9
%					66.9			33.1	

Source: Author's calculation from available data in DIPLAC Ministry of Education

Appendix E: Transformational leadership, Organisational learning, Individual teacher learning, and Changing Teaching practices: Means and Standard deviations (related to tables 5.19; 5.34-5.38)

Table 1: Means and standard deviations related to school leader transformational practices based on teacher responses

Variable	Mean	Std. deviation
Vision and goals	4.13	.87
Culture	4.13	.87
Structure	3.95	.89
Intellectual stimulation	3.90	.83
Individualized support	3.92	.72
Performance expectations	4.07	.90
Difference leaders vs. teachers on transformational leadership*	.55	.59

*Based on school leader and teacher reports

Table 2: Means and standard deviations related to individual teacher learning activities based on teachers' responses

Variable	Mean	Std. deviation
Individual teacher learning activities	4.21	.84

Table 3: Means and standard deviations related to teacher concerns about competencies, changed teaching practices, and teachers desire to teach according to traditional methods based on teacher responses

Variable	Mean	Std. deviation
Teacher concerns about competencies	1.97	.97
Changed teaching practices	3.64	.94
Teacher likes to teach according to tried and tested ideas or methods	3.84	1.22
Teacher feels comfortable when work goes according to fixed routine	3.69	1.37
Teacher does not like derivate from the traditional teaching methods	3.14	1.28

Table 4: Means and standard deviations related to organisational learning based on teacher responses

Variable	Mean	Std. deviation
Organisational learning	3.90	.63
Policy and evaluation	4.27	.64
Decision making	3.82	.91
Consultation and cooperation	3.89	.72
Consensus	3.64	.74

Appendix F: Association between school context, school leader characteristics, teacher background, and school leaders' transformational practices (teacher reports except when indicated) as dependent variables (question 2)

Multilevel analyses with school context as independent variable and school leaders' transformational practices (teacher reports) as dependent variables

Table 1: Association of school context and vision and goals (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.404	.022
Maputo-Province	-.715	.000
Nampula	-.219	.202
Zambezia	.118	.491
Cabo Delgado (province comparison base)	0a	-
School level	-.163	.293
Pupils background (school leader perception)	.232	.043
Number of teachers existing in the school	.003	.307
Ratio pupils teacher	-.002	.680
Quality of teachers (school leader perception)	.220	.003
Number of formal leaders existing in the school	-7.590E-5	.996
School location: urban/rural	-.181	.214
Teacher variance	.542	.000
School variance	.120	.001

Table 2: Association of school context and culture (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.361	.039
Maputo-Province	-.662	.000
Nampula	-.145	.394
Zambezia	.137	.423
Cabo Delgado (province comparison base)	0a	-
School level	-.133	.387
Pupils background (school leader perception)	.164	.147
Number of teachers existing in the school	.004	.169
Ratio pupils teacher	-.003	.607
Quality of teachers (school leader perception)	.118	.105
Number of formal leaders existing in the school	-.001	.957
School location: urban/rural	-.314	.032
Teacher variance	.568	.000
School variance	.113	.001

Table 3: Association of school context and structure (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.348	.059
Maputo-Province	-.649	.000
Nampula	-.280	.120
Zambezia	.200	.256
Cabo Delgado (province comparison base)	0a	-
School level	-.173	.287
Pupils background (school leader perception)	.161	.177
Number of teachers existing in the school	.005	.097
Ratio pupils teacher	-.006	.292
Quality of teachers (school leader perception)	.126	.100
Number of formal leaders existing in the school	.010	.540
School location: urban/rural	-.187	.223
Teacher variance	.584	.000
School variance	.135	.001

Table 4: Association of school context and intellectual stimulation (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.332	.077
Maputo-Province	-.506	.006
Nampula	-.184	.312
Zambezia	.371	.044
Cabo Delgado (province comparison base)	0a	-
School level	-.061	.713
Pupils background (school leader perception)	.086	.479
Number of teachers existing in the school	.002	.590
Ratio pupils teacher	-.007	.187
Quality of teachers (school leader perception)	.115	.140
Number of formal leaders existing in the school	-.009	.604
School location: urban/rural	-.221	.155
Teacher variance	.442	.000
School variance	.169	.000

Table 5: Association of school context and individualized support (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.288	.056
Maputo-Province	-.465	.002
Nampula	-.169	.250
Zambezia	.164	.264
Cabo Delgado (province comparison base)	0a	-
School level	-.026	.846
Pupils background (school leader perception)	.051	.602
Number of teachers existing in the school	.003	.173
Ratio pupils teacher	-.007	.121
Quality of teachers (school leader perception)	.102	.105
Number of formal leaders existing in the school	-.013	.366
School location: urban/rural	-.109	.381
Teacher variance	.384	.000
School variance	.090	.001

Table 6: Association of school context and performance expectations (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.411	.033
Maputo-Province	-.720	.000
Nampula	-.298	.112
Zambezia	.121	.519
Cabo Delgado (province comparison base)	0a	-
School level	-.104	.537
Pupils background (school leader perception)	.104	.403
Number of teachers existing in the school	.005	.091
Ratio pupils teacher	-.006	.288
Quality of teachers (school leader perception)	.136	.090
Number of formal leaders existing in the school	.003	.877
School location: urban/rural	-.289	.071
Teacher variance	.568	.000
School variance	.159	.000

Multilevel analyses with school context as independent variable and the average over six leadership dimensions (teacher reports) as dependent variable

Table 7: Association of school context and the average over six leadership dimensions (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.360	.023
Maputo-Province	-.619	.000
Nampula	-.217	.155
Zambezia	.184	.230
Cabo Delgado (province comparison base)	0a	-
School level	-.112	.416
Pupils background (school leader perception)	.134	.187
Number of teachers existing in the school	.004	.148
Ratio pupils teacher	-.005	.260
Quality of teachers (school leader perception)	.136	.038
Number of formal leaders existing in the school	-.002	.914
School location: urban/rural	-.217	.097
Teacher variance	.339	.000
School variance	.113	.000

Multilevel analyses with school context as independent variable and the average over six leadership dimensions (difference leaders teachers) as dependent variable

Table 8: Association of school context and the average over six leadership dimensions (difference leaders teachers) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	.285	.136
Maputo-Province	.588	.002
Nampula	-.048	.794
Zambezia	-.233	.212
Cabo Delgado (province comparison base)	0a	-
School level	.190	.259
Pupils background (school leader perception)	-.337	.008
Number of teachers existing in the school	-.001	.668
Ratio pupils teacher	.006	.305
Quality of teachers (school leader perception)	-.133	.096
Number of formal leaders existing in the school	-.012	.502
School location: urban/rural	.384	.016
Teacher variance	.340	.000
School variance	.198	.000

Multilevel analyses with school leader characteristics as independent variables and the average over six leadership dimensions (teacher reports) as dependent variable

Table 9: Association of school leader characteristics and the average over six leadership dimensions (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
School leader specialisation: teacher training	-.491	.105
School leader specialisation: general education	-.663	.049
School leader specialisation: school management training	-.399	.318
School leader specialisation: others*	0a	-
School leader training topics	-.208	.119
Experience as principal or vice-principal	-.003	.689
School leader gender (male)	-.289	.008
School leader's academic qualifications	.108	.460
Number of types of training in EAM attended by school leader	.302	.266
Training in EAM with academic degree attended by school leader	-.171	.622
Training in EAM that awards a certificate attended by school leader	-.315	.269
Upgrading course in EAM without certification attended by school leader	-.135	.608
Workshop or seminar in EAM attended by school leader	-.530	.070
Position before principal or vice-principal	.017	.869
Teacher variance	.339	.000
School variance	.167	.000

*School leader specialisation comparison base

Multilevel analyses with teacher background as independent variable and the average over six leadership dimensions (teacher reports) as dependent variable

Table 10: Association of teacher background and the average over six leadership dimensions (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	-.227	.065
Teacher specialisation: general education	-.215	.129
Teacher specialisation: others*	0a	-
Experience as teacher	.006	.078
Teacher gender (male)	.044	.437
Teachers' academic qualifications	-.080	.522
Number of shifts in which teachers work	.013	.864
Training with academic degree attended by teacher in order to deal with the new curriculum	-.528	.003
Training that awards a certificate attended by teacher in order to deal with the new curriculum	-.044	.808
Upgrading course without certification attended by teacher in order to deal with the new curriculum	-.183	.302
Workshop or seminar attended by teacher in order to deal with the new curriculum	-.196	.284
Number of types of training attended by teacher in order to deal with the new curriculum	.225	.171
Teacher variance	.341	.000
School variance	.122	.000

*Teacher specialisation comparison base

Multilevel analyses with school context, school leader characteristics and teacher background as independent variables, and the average over six leadership dimensions (teacher reports) as dependent variable

Table 11: Association of school context, school leader characteristics, teacher background, and the average over six leadership dimensions (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.469	.003
Maputo-Province	-.686	.000
Nampula	-.225	.137
Zambezia	.093	.546
Cabo Delgado *	0a	-
School level	-.214	.098
Pupils background (school leader perception)	.110	.235
Number of teachers existing in the school	.007	.008
Ratio pupils teacher	-.006	.159
Quality of teachers (school leader perception)	.144	.026
Number of formal leaders existing in the school	-.005	.713

Variable	Estimate (Effects)	Sig.
School leader specialisation: teacher training	-.337	.178
School leader specialisation: general education	-.090	.752
School leader specialisation: school management	-.502	.117
School leader specialisation: others**	0a	-
Experience as principal or vice-principal	-.003	.613
School leader gender (male)	-.241	.007
School leader's academic qualifications	.205	.090
School leader training in EAM topic – administrative or financial management	.131	.215
School leader training in EAM topic – educational leadership****	0a	-
Training in EAM with academic degree attended by school leader	.137	.612
Training in EAM that awards a certificate attended by school leader	.111	.643
Upgrading course in EAM without certification attended by school leader	.234	.304
Workshop or seminar in EAM attended by school leader	-.049	.842
Number of types of training in EAM attended by school leader	-.028	.901
Position before principal or vice-principal	.070	.423
Teacher specialisation: teacher training	-.184	.130
Teacher specialisation: general education	-.275	.051
Teacher specialisation: others***	0a	-
Experience as teacher	.006	.081
Teacher gender (male)	.066	.237
Teacher's academic qualifications	-.078	.523
Number of shifts in which teachers work	-.061	.414
Training with academic degree attended by teacher in order to deal with the new curriculum	-.465	.009
Training that awards a certificate attended by teacher in order to deal with the new curriculum	-.078	.663
Upgrading course without certification attended by teacher in order to deal with the new curriculum	-.222	.210
Workshop or seminar attended by teacher in order to deal with the new curriculum	-.183	.313
Number of types of training attended by teacher in order to deal with the new curriculum	.250	.126
Teacher variance	.335	.000
School variance	.061	.008

*Province comparison base

**School leader specialisation comparison base

***Teacher specialisation comparison base

****School leader training topic comparison base

Appendix G: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning (teacher reports), individual teacher learning (teacher reports), and changing teaching practices (teacher reports) as dependent variables, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics (question 4)

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and organisational learning as a global concept (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 1: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning as a whole (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.255	.008
Maputo-Province	-.250	.013
Nampula	-.134	.143
Zambezia	-.144	.128
Cabo Delgado	0a	-
School level	-.020	.800
Pupils background (school leader perception)	.070	.240
Number of teachers existing in the school	.000	.944
Ratio pupils teacher	-.000	.883
Quality of teachers (school leader perception)	-.012	.747
Number of formal leaders existing in the school	.002	.758
Vision and goals	.121	.001
Culture	-.037	.288
Structure	.049	.193
Intellectual stimulation	.171	.000
Individualized support	.136	.003
Performance expectations	.060	.039
Difference leaders vs. teachers on transformational leadership	-.082	.142
School leader specialisation: teacher training	.049	.740
School leader specialisation: general education	.141	.408
School leader specialisation: school management	.123	.518
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.003	.528
School leader gender (male)	.052	.336
School leader's academic qualifications	-.034	.640
School leader training in EAM topic – administrative or financial management	.056	.383

Variable	Estimate (Effects)	Sig.
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.053	.741
Training in EAM that awards a certificate attended by school leader	-.012	.933
Upgrading course in EAM without certification attended by school leader	.014	.916
Workshop or seminar in EAM attended by school leader	-.043	.771
Number of types of training in EAM attended by school leader	-.020	.881
Position before principal or vice-principal	.018	.733
Teacher specialisation: teacher training	-.076	.342
Teacher specialisation: general education	-.042	.654
Teacher specialisation: others	0a	-
Experience as teacher	-.000	.897
Teacher gender (male)	-.108	.004
Teacher's academic qualifications	.052	.517
Number of shifts in which teachers work	-.025	.612
Training with academic degree attended by teacher in order to deal with the new curriculum	.039	.740
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.075	.523
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.064	.582
Workshop or seminar attended by teacher in order to deal with the new curriculum	.100	.406
Number of types of training attended by teacher in order to deal with the new curriculum	.003	.978
Teacher concerns about competencies*	-.003	.863
Teacher likes to teach according to tried and tested ideas or methods*	.070	.000
Teacher feels comfortable when work goes according to fixed routine*	.011	.457
Teacher does not like to deviate from the traditional teaching method*	.030	.050
Teacher variance	.146	.000
School variance	.017	.045

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and policy and evaluation (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 2: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and policy and evaluation (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.079	.512
Maputo-Province	-.090	.473
Nampula	-.146	.208
Zambezia	-.168	.162
Cabo Delgado	0a	-
School level	.042	.675
Pupils background (school leader perception)	.042	.583
Number of teachers existing in the school	-.000	.924
Ratio pupils teacher	.003	.399
Quality of teachers (school leader perception)	-.044	.365
Number of formal leaders existing in the school	.003	.776
Vision and goals	.169	.000
Culture	-.028	.521
Structure	.104	.024
Intellectual stimulation	.080	.177
Individualized support	.167	.003
Performance expectations	-.005	.881
Difference leaders vs. teachers on transformational leadership	-.047	.508
School leader specialisation: teacher training	.090	.634
School leader specialisation: general education	.079	.751
School leader specialisation: school management	.260	.288
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.002	.646
School leader gender (male)	-.024	.727
School leader's academic qualifications	-.012	.900
School leader training in EAM topic – administrative or financial management	.138	.092
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.358	.086
Training in EAM that awards a certificate attended by school leader	-.225	.223
Upgrading course in EAM without certification attended by school leader	-.128	.460
Workshop or seminar in EAM attended by school leader	-.168	.371
Number of types of training in EAM attended by school leader	.172	.322
Position before principal or vice-principal	.037	.577

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	.008	.933
Teacher specialisation: general education	.077	.505
Teacher specialisation: others	0a	-
Experience as teacher	-.002	.451
Teacher gender (male)	-.132	.004
Teacher's academic qualifications	.007	.943
Number of shifts in which teachers work	-.012	.838
Training with academic degree attended by teacher in order to deal with the new curriculum	.241	.095
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.116	.422
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.097	.499
Workshop or seminar attended by teacher in order to deal with the new curriculum	.165	.265
Number of types of training attended by teacher in order to deal with the new curriculum	-.066	.622
Teacher concerns about competencies*	-.008	.739
Teacher likes to teach according to tried and tested ideas or methods*	.086	.000
Teacher feels comfortable when work goes according to fixed routine*	-.007	.716
Teacher does not like to deviate from the traditional teaching method*	.010	.605
Teacher variance	.217	.000
School variance	.031	.017

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and decision making (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 3: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and decision making (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.473	.001
Maputo-Province	-.550	.000
Nampula	-.285	.033
Zambezia	-.279	.045
Cabo Delgado	0a	-
School level	.018	.871
Pupils background (school leader perception)	.032	.714
Number of teachers existing in the school	.002	.442
Ratio pupils teacher	.000	.935
Quality of teachers (school leader perception)	-.020	.721
Number of formal leaders existing in the school	-.011	.341
Vision and goals	.126	.045
Culture	-.087	.159
Structure	.049	.456
Intellectual stimulation	.233	.006
Individualized support	.133	.098
Performance expectations	.083	.109
Difference leaders vs. teachers on transformational leadership	-.083	.325
School leader specialisation: teacher training	.161	.458
School leader specialisation: general education	.285	.248
School leader specialisation: school management	.091	.741
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.006	.305
School leader gender (male)	-.005	.951
School leader's academic qualifications	.033	.758
School leader training in EAM topic – administrative or financial management	-.061	.508
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.014	.952
Training in EAM that awards a certificate attended by school leader	-.005	.981
Upgrading course in EAM without certification attended by school leader	.066	.737
Workshop or seminar in EAM attended by school leader	-.176	.406
Number of types of training in EAM attended by school leader	-.026	.894
Position before principal or vice-principal	-.016	.833
Teacher specialisation: teacher training	-.177	.217

Variable	Estimate (Effects)	Sig.
Teacher specialisation: general education	-.138	.410
Teacher specialisation: others	0a	-
Experience as teacher	-.002	.678
Teacher gender (male)	-.098	.144
Teacher's academic qualifications	-.029	.840
Number of shifts in which teachers work	-.068	.419
Training with academic degree attended by teacher in order to deal with the new curriculum	-.133	.524
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.088	.674
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.007	.973
Workshop or seminar attended by teacher in order to deal with the new curriculum	.031	.884
Number of types of training attended by teacher in order to deal with the new curriculum	.072	.710
Teacher concerns about competencies*	-.061	.082
Teacher likes to teach according to tried and tested ideas or methods*	.066	.045
Teacher feels comfortable when work goes according to fixed routine*	-.016	.568
Teacher does not like to deviate from the traditional teaching method*	.070	.011
Teacher variance	.495	.000
School variance	0.0000E0	-

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and consultation and cooperation among teachers (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 4: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and consultation and cooperation among teachers (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.194	.118
Maputo-Province	-.118	.361
Nampula	-.028	.813
Zambezia	-.053	.662
Cabo Delgado	0a	-
School level	-.104	.305
Pupils background (school leader perception)	.017	.827
Number of teachers existing in the school	-.001	.701
Ratio pupils teacher	-.003	.327
Quality of teachers (school leader perception)	-.002	.972
Number of formal leaders existing in the school	.017	.103
Vision and goals	.144	.002
Culture	-.048	.292
Structure	.053	.275
Intellectual stimulation	.113	.070
Individualized support	.130	.027
Performance expectations	.123	.001
Difference leaders vs. teachers on transformational leadership	-.128	.079
School leader specialisation: teacher training	.013	.945
School leader specialisation: general education	.138	.532
School leader specialisation: school management	.076	.760
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.001	.854
School leader gender (male)	.106	.137
School leader's academic qualifications	-.086	.372
School leader training in EAM topic – administrative or financial management	.043	.608
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.171	.415
Training in EAM that awards a certificate attended by school leader	.249	.186
Upgrading course in EAM without certification attended by school leader	.133	.452
Workshop or seminar in EAM attended by school leader	.149	.437
Number of types of training in EAM attended by school leader	-.216	.224
Position before principal or vice-principal	-.009	.895

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	-.125	.232
Teacher specialisation: general education	-.126	.305
Teacher specialisation: others	0a	-
Experience as teacher	-.000	.881
Teacher gender (male)	-.125	.010
Teacher's academic qualifications	.001	.994
Number of shifts in which teachers work	-.079	.210
Training with academic degree attended by teacher in order to deal with the new curriculum	.004	.977
Training that awards a certificate attended by teacher in order to deal with the new curriculum	-.054	.723
Upgrading course without certification attended by teacher in order to deal with the new curriculum	-.015	.922
Workshop or seminar attended by teacher in order to deal with the new curriculum	.039	.803
Number of types of training attended by teacher in order to deal with the new curriculum	.075	.596
Teacher concerns about competencies*	.004	.888
Teacher likes to teach according to tried and tested ideas or methods*	.066	.006
Teacher feels comfortable when work goes according to fixed routine*	.029	.151
Teacher does not like to deviate from the traditional teaching method*	.021	.289
Teacher variance	.247	.000
School variance	.028	.047

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and consensus (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 5: Association of school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and consensus (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.278	.031
Maputo-Province	-.253	.058
Nampula	-.082	.499
Zambezia	-.091	.468
Cabo Delgado	0a	-
School level	-.040	.698
Pupils background (school leader perception)	.194	.017
Number of teachers existing in the school	-6.710092E-5	.973
Ratio pupils teacher	-.002	.630
Quality of teachers (school leader perception)	.023	.659
Number of formal leaders existing in the school	.001	.930
Vision and goals	.051	.277
Culture	.003	.956
Structure	-.009	.860
Intellectual stimulation	.267	.000
Individualized support	.119	.051
Performance expectations	.036	.349
Difference leaders vs. teachers on transformational leadership	-.061	.414
School leader specialisation: teacher training	-.056	.781
School leader specialisation: general education	.083	.715
School leader specialisation: school management	.089	.729
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.000	.954
School leader gender (male)	.129	.078
School leader's academic qualifications	-.071	.468
School leader training in EAM topic – administrative or financial management	.100	.244
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.024	.912
Training in EAM that awards a certificate attended by school leader	-.062	.745
Upgrading course in EAM without certification attended by school leader	-.023	.901
Workshop or seminar in EAM attended by school leader	.017	.931
Number of types of training in EAM attended by school leader	-.006	.974
Position before principal or vice-principal	.062	.373

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	-.011	.921
Teacher specialisation: general education	.018	.887
Teacher specialisation: others	0a	-
Experience as teacher	.003	.347
Teacher gender (male)	-.103	.039
Teacher's academic qualifications	.208	.055
Number of shifts in which teachers work	.049	.454
Training with academic degree attended by teacher in order to deal with the new curriculum	.010	.950
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.108	.495
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.125	.424
Workshop or seminar attended by teacher in order to deal with the new curriculum	.140	.385
Number of types of training attended by teacher in order to deal with the new curriculum	-.030	.835
Teacher concerns about competencies*	.053	.047
Teacher likes to teach according to tried and tested ideas or methods*	.061	.013
Teacher feels comfortable when work goes according to fixed routine*	.040	.053
Teacher does not like to deviate from the traditional teaching method*	.017	.400
Teacher variance	.260	.000
School variance	.030	.032

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and organisational learning as a whole (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 6: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and organisational learning as a whole (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.250	.003
Maputo-Province	-.231	.009
Nampula	-.126	.115
Zambezia	-.131	.114
Cabo Delgado	0a	-
School level	-.036	.590
Pupils background (school leader perception)	.084	.107
Number of teachers existing in the school	-.000	.870
Ratio pupils teacher	.001	.786
Quality of teachers (school leader perception)	-.016	.625
Number of formal leaders existing in the school	-.000	.948
Vision and goals	.080	.022
Culture	-.025	.446
Structure	.027	.457
Intellectual stimulation	.146	.002
Individualized support	.126	.004
Performance expectations	.044	.117
Difference leaders vs. teachers on transformational leadership	-.043	.388
Individual teacher learning activities	.213	.000
School leader specialisation: teacher training	.111	.390
School leader specialisation: general education	.199	.179
School leader specialisation: school management	.163	.325
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.002	.668
School leader gender (male)	.047	.321
School leader's academic qualifications	-.021	.735
School leader training in EAM topic – administrative or financial management	.051	.358
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.025	.860
Training in EAM that awards a certificate attended by school leader	-.028	.824
Upgrading course in EAM without certification attended by school	.010	.935

Variable	Estimate (Effects)	Sig.
leader		
Workshop or seminar in EAM attended by school leader	-.050	.695
Number of types of training in EAM attended by school leader	-.003	.977
Position before principal or vice-principal	.003	.941
Teacher specialisation: teacher training	-.064	.403
Teacher specialisation: general education	-.025	.785
Teacher specialisation: others	0a	-
Experience as teacher	-.001	.799
Teacher gender (male)	-.092	.010
Teacher's academic qualifications	.036	.646
Number of shifts in which teachers work	-.064	.173
Training with academic degree attended by teacher in order to deal with the new curriculum	.067	.552
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.056	.620
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.062	.582
Workshop or seminar attended by teacher in order to deal with the new curriculum	.082	.478
Number of types of training attended by teacher in order to deal with the new curriculum	-.003	.979
Teacher concerns about competencies*	-.008	.672
Teacher likes to teach according to tried and tested ideas or methods*	.043	.019
Teacher feels comfortable when work goes according to fixed routine*	.007	.635
Teacher does not like to deviate from the traditional teaching method*	.031	.040
Teacher variance	.138	.000
School variance	.007	.273

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and policy and evaluation (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 7: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and policy and evaluation (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.067	.519
Maputo-Province	-.063	.561
Nampula	-.134	.183
Zambezia	-.150	.152
Cabo Delgado	0a	-
School level	.025	.769
Pupils background (school leader perception)	.060	.362
Number of teachers existing in the school	-.001	.722
Ratio pupils teacher	.004	.159
Quality of teachers (school leader perception)	-.050	.238
Number of formal leaders existing in the school	-.001	.933
Vision and goals	.118	.006
Culture	-.010	.817
Structure	.080	.072
Intellectual stimulation	.050	.381
Individualized support	.151	.005
Performance expectations	-.027	.432
Difference leaders vs. teachers on transformational leadership	-.003	.960
Individual teacher learning activities	.252	.000
School leader specialisation: teacher training	.166	.314
School leader specialisation: general education	.145	.436
School leader specialisation: school management	.305	.149
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.001	.809
School leader gender (male)	-.032	.595
School leader's academic qualifications	.002	.976
School leader training in EAM topic – administrative or financial management	.134	.058
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.324	.070
Training in EAM that awards a certificate attended by school leader	-.250	.116
Upgrading course in EAM without certification attended by school leader	-.137	.359

Variable	Estimate (Effects)	Sig.
Workshop or seminar in EAM attended by school leader	-.179	.266
Number of types of training in EAM attended by school leader	.196	.190
Position before principal or vice-principal	.018	.748
Teacher specialisation: teacher training	.021	.825
Teacher specialisation: general education	.095	.394
Teacher specialisation: others	0a	-
Experience as teacher	-.003	.333
Teacher gender (male)	-.106	.016
Teacher's academic qualifications	-.025	.794
Number of shifts in which teachers work	-.054	.352
Training with academic degree attended by teacher in order to deal with the new curriculum	.278	.046
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.098	.481
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.099	.474
Workshop or seminar attended by teacher in order to deal with the new curriculum	.142	.320
Number of types of training attended by teacher in order to deal with the new curriculum	-.075	.561
Teacher concerns about competencies*	-.012	.624
Teacher likes to teach according to tried and tested ideas or methods*	.055	.014
Teacher feels comfortable when work goes according to fixed routine*	-.013	.482
Teacher does not like to deviate from the traditional teaching method*	.010	.592
Teacher variance	.209	.000
School variance	.013	.175

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and decision making (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 8: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and decision making (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.478	.001
Maputo-Province	-.536	.000
Nampula	-.285	.031
Zambezia	-.267	.052
Cabo Delgado	0a	-
School level	.003	.979
Pupils background (school leader perception)	.043	.613
Number of teachers existing in the school	.001	.557
Ratio pupils teacher	.001	.711
Quality of teachers (school leader perception)	-.026	.640
Number of formal leaders existing in the school	-.014	.226
Vision and goals	.078	.216
Culture	-.066	.284
Structure	.028	.667
Intellectual stimulation	.206	.014
Individualized support	.125	.116
Performance expectations	.063	.219
Difference leaders vs. teachers on transformational leadership	-.048	.563
Individual teacher learning activities	.207	.000
School leader specialisation: teacher training	.218	.309
School leader specialisation: general education	.339	.164
School leader specialisation: school management	.122	.656
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.005	.370
School leader gender (male)	-.008	.918
School leader's academic qualifications	.048	.643
School leader training in EAM topic – administrative or financial management	-.067	.462
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.021	.926
Training in EAM that awards a certificate attended by school leader	-.018	.929
Upgrading course in EAM without certification attended by school leader	.066	.735

Variable	Estimate (Effects)	Sig.
Workshop or seminar in EAM attended by school leader	-.180	.390
Number of types of training in EAM attended by school leader	-.015	.940
Position before principal or vice-principal	-.031	.678
Teacher specialisation: teacher training	-.167	.238
Teacher specialisation: general education	-.119	.470
Teacher specialisation: others	0a	-
Experience as teacher	-.002	.697
Teacher gender (male)	-.078	.235
Teacher's academic qualifications	-.029	.840
Number of shifts in which teachers work	-.106	.208
Training with academic degree attended by teacher in order to deal with the new curriculum	-.100	.627
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.076	.713
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.004	.986
Workshop or seminar attended by teacher in order to deal with the new curriculum	.011	.957
Number of types of training attended by teacher in order to deal with the new curriculum	.064	.738
Teacher concerns about competencies*	-.068	.051
Teacher likes to teach according to tried and tested ideas or methods*	.036	.280
Teacher feels comfortable when work goes according to fixed routine*	-.020	.460
Teacher does not like to deviate from the traditional teaching method*	.073	.008
Teacher variance	.483	.000
School variance	0.0000E0	-

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and consultation and cooperation among teachers (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 9: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and consultation and cooperation among teachers (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.187	.100
Maputo-Province	-.096	.418
Nampula	-.017	.877
Zambezia	-.035	.758
Cabo Delgado	0a	-
School level	-.120	.196
Pupils background (school leader perception)	.029	.681
Number of teachers existing in the school	-.001	.541
Ratio pupils teacher	-.002	.452
Quality of teachers (school leader perception)	-.005	.913
Number of formal leaders existing in the school	.015	.135
Vision and goals	.104	.024
Culture	-.037	.411
Structure	.032	.502
Intellectual stimulation	.083	.172
Individualized support	.124	.032
Performance expectations	.108	.004
Difference leaders vs. teachers on transformational leadership	-.089	.186
Individual teacher learning activities	.208	.000
School leader specialisation: teacher training	.071	.689
School leader specialisation: general education	.192	.345
School leader specialisation: school management	.112	.621
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-4.102171E-5	.993
School leader gender (male)	.101	.122
School leader's academic qualifications	-.073	.404
School leader training in EAM topic – administrative or financial management	.037	.621
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.199	.301
Training in EAM that awards a certificate attended by school leader	.237	.168
Upgrading course in EAM without certification attended by school	.131	.418

Variable	Estimate (Effects)	Sig.
leader		
Workshop or seminar in EAM attended by school leader	.145	.406
Number of types of training in EAM attended by school leader	-.202	.213
Position before principal or vice-principal	-.022	.720
Teacher specialisation: teacher training	-.111	.278
Teacher specialisation: general education	-.106	.376
Teacher specialisation: others	0a	-
Experience as teacher	-.001	.816
Teacher gender (male)	-.107	.024
Teacher's academic qualifications	-.009	.927
Number of shifts in which teachers work	-.116	.063
Training with academic degree attended by teacher in order to deal with the new curriculum	.030	.842
Training that awards a certificate attended by teacher in order to deal with the new curriculum	-.073	.625
Upgrading course without certification attended by teacher in order to deal with the new curriculum	-.018	.906
Workshop or seminar attended by teacher in order to deal with the new curriculum	.020	.898
Number of types of training attended by teacher in order to deal with the new curriculum	.068	.621
Teacher concerns about competencies*	-.000	.993
Teacher likes to teach according to tried and tested ideas or methods*	.040	.098
Teacher feels comfortable when work goes according to fixed routine*	.024	.216
Teacher does not like to deviate from the traditional teaching method*	.021	.281
Teacher variance	.241	.000
School variance	.017	.150

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and consensus (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 10: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and consensus (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.277	.026
Maputo-Province	-.236	.068
Nampula	-.078	.510
Zambezia	-.078	.523
Cabo Delgado	0a	-
School level	-.055	.585
Pupils background (school leader perception)	.204	.010
Number of teachers existing in the school	-.000	.838
Ratio pupils teacher	-.001	.824
Quality of teachers (school leader perception)	.019	.702
Number of formal leaders existing in the school	-.001	.892
Vision and goals	.012	.797
Culture	.016	.722
Structure	-.028	.567
Intellectual stimulation	.245	.000
Individualized support	.111	.063
Performance expectations	.021	.577
Difference leaders vs. teachers on transformational leadership	-.029	.690
Individual teacher learning activities	.181	.000
School leader specialisation: teacher training	-.005	.978
School leader specialisation: general education	.128	.561
School leader specialisation: school management	.121	.625
School leader specialisation: others	0a	-
Experience as principal or vice-principal	.000	.930
School leader gender (male)	.126	.076
School leader's academic qualifications	-.060	.528
School leader training in EAM topic – administrative or financial management	.096	.248
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.004	.986
Training in EAM that awards a certificate attended by school leader	-.075	.689
Upgrading course in EAM without certification attended by school leader	-.024	.893

Variable	Estimate (Effects)	Sig.
Workshop or seminar in EAM attended by school leader	.015	.938
Number of types of training in EAM attended by school leader	.005	.977
Position before principal or vice-principal	.049	.471
Teacher specialisation: teacher training	-.004	.971
Teacher specialisation: general education	.032	.796
Teacher specialisation: others	0a	-
Experience as teacher	.003	.355
Teacher gender (male)	-.087	.076
Teacher's academic qualifications	.200	.060
Number of shifts in which teachers work	.017	.795
Training with academic degree attended by teacher in order to deal with the new curriculum	.034	.825
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.096	.534
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.124	.419
Workshop or seminar attended by teacher in order to deal with the new curriculum	.122	.438
Number of types of training attended by teacher in order to deal with the new curriculum	-.037	.798
Teacher concerns about competencies*	.048	.065
Teacher likes to teach according to tried and tested ideas or methods*	.038	.126
Teacher feels comfortable when work goes according to fixed routine*	.036	.077
Teacher does not like to deviate from the traditional teaching method*	.018	.372
Teacher variance	.253	.000
School variance	.027	.044

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and individual teacher learning (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 11: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and individual teacher learning (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.029	.852
Maputo-Province	-.112	.495
Nampula	-.045	.764
Zambezia	-.093	.550
Cabo Delgado	0a	-
School level	.087	.506
Pupils background (school leader perception)	-.060	.546
Number of teachers existing in the school	.002	.482
Ratio pupils teacher	-.005	.241
Quality of teachers (school leader perception)	.012	.854
Number of formal leaders existing in the school	.013	.359
Vision and goals	.214	.000
Culture	-.069	.148
Structure	.109	.034
Intellectual stimulation	.121	.066
Individualized support	.036	.561
Performance expectations	.084	.034
Difference leaders vs. teachers on transformational leadership	-.184	.043
School leader specialisation: teacher training	-.277	.272
School leader specialisation: general education	-.239	.404
School leader specialisation: school management	-.207	.520
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.004	.516
School leader gender (male)	.023	.802
School leader's academic qualifications	-.058	.637
School leader training in EAM topic – administrative or financial management	.018	.865
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	-.140	.607
Training in EAM that awards a certificate attended by school leader	.062	.796
Upgrading course in EAM without certification attended by school leader	.005	.982
Workshop or seminar in EAM attended by school leader	-2.287420E-5	1.000
Number of types of training in EAM attended by school leader	-.059	.794
Position before principal or vice-principal	.074	.392

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	-.034	.753
Teacher specialisation: general education	-.075	.554
Teacher specialisation: others	0a	-
Experience as teacher	.001	.697
Teacher gender (male)	-.086	.084
Teacher's academic qualifications	.069	.525
Number of shifts in which teachers work	.169	.012
Training with academic degree attended by teacher in order to deal with the new curriculum	-.096	.549
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.075	.639
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.018	.909
Workshop or seminar attended by teacher in order to deal with the new curriculum	.124	.446
Number of types of training attended by teacher in order to deal with the new curriculum	.014	.925
Teacher concerns about competencies*	.017	.533
Teacher likes to teach according to tried and tested ideas or methods*	.120	.000
Teacher feels comfortable when work goes according to fixed routine*	.026	.215
Teacher does not like to deviate from the traditional teaching method*	.002	.941
Teacher variance	.255	.000
School variance	.077	.001

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, organisational learning dimensions (teacher reports) included as additional covariates and individual teacher learning (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 12: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and individual teacher learning (teacher reports) as dependent variable, with organisational learning dimensions (teacher reports) included as additional covariates

Variable	Estimate (Effects)	Sig.
Maputo-City	.057	.681
Maputo-Province	-.033	.820
Nampula	.015	.909
Zambezia	-.030	.827
Cabo Delgado	0a	-
School level	.087	.445
Pupils background (school leader perception)	-.089	.312
Number of teachers existing in the school	.002	.385
Ratio pupils teacher	-.006	.164
Quality of teachers (school leader perception)	.023	.679
Number of formal leaders existing in the school	.011	.363
Vision and goals	.162	.001
Culture	-.066	.150
Structure	.079	.109
Intellectual stimulation	.064	.319
Individualized support	-.026	.663
Performance expectations	.072	.063
Difference leaders vs. teachers on transformational leadership	-.149	.065
Policy and evaluation	.215	.000
Decision making	.028	.446
Consultation and cooperation among teachers	.085	.119
Consensus	.099	.046
School leader specialisation: teacher training	-.295	.181
School leader specialisation: general education	-.286	.254
School leader specialisation: school management	-.266	.345
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.003	.561
School leader gender (male)	.004	.961
School leader's academic qualifications	-.046	.673
School leader training in EAM topic – administrative or financial management	-.021	.823
School leader training in EAM topic – educational leadership	0a	-

Variable	Estimate (Effects)	Sig.
Training in EAM with academic degree attended by school leader	-.083	.727
Training in EAM that awards a certificate attended by school leader	.096	.649
Upgrading course in EAM without certification attended by school leader	.020	.919
Workshop or seminar in EAM attended by school leader	.030	.891
Number of types of training in EAM attended by school leader	-.075	.708
Position before principal or vice-principal	.063	.414
Teacher specialisation: teacher training	-.019	.856
Teacher specialisation: general education	-.080	.515
Teacher specialisation: others	0a	-
Experience as teacher	.001	.731
Teacher gender (male)	-.036	.462
Teacher's academic qualifications	.032	.763
Number of shifts in which teachers work	.177	.006
Training with academic degree attended by teacher in order to deal with the new curriculum	-.159	.303
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.037	.813
Upgrading course without certification attended by teacher in order to deal with the new curriculum	-.015	.923
Workshop or seminar attended by teacher in order to deal with the new curriculum	.066	.674
Number of types of training attended by teacher in order to deal with the new curriculum	.028	.845
Teacher concerns about competencies*	.019	.483
Teacher likes to teach according to tried and tested ideas or methods*	.093	.000
Teacher feels comfortable when my work goes according to fixed routine*	.020	.313
Teacher does not like to deviate from the traditional teaching method*	-.009	.659
Teacher variance	.242	.000
School variance	.050	.005

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables and changing teaching practices (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 13: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and changing teaching practices (teacher reports) as dependent variable

Variable	Estimate (Effects)	Sig.
Maputo-City	-.389	.022
Maputo-Province	-.374	.035
Nampula	-.160	.321
Zambezia	-.256	.126
Cabo Delgado	0a	-
School level	-.070	.614
Pupils background (school leader perception)	-.068	.524
Number of teachers existing in the school	.001	.727
Ratio pupils teacher	-.007	.162
Quality of teachers (school leader perception)	.068	.323
Number of formal leaders existing in the school	.033	.026
Vision and goals	.147	.009
Culture	-.122	.030
Structure	.064	.282
Intellectual stimulation	.262	.001
Individualized support	.139	.056
Performance expectations	.104	.026
Difference leaders vs. teachers on transformational leadership	-.094	.334
School leader specialisation: teacher training	-.484	.072
School leader specialisation: general education	-.426	.162
School leader specialisation: school management	-.442	.196
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.010	.156
School leader gender (male)	-.041	.666
School leader's academic qualifications	.012	.925
School leader training in EAM topic – administrative or financial management	-.079	.487
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.320	.268
Training in EAM that awards a certificate attended by school leader	.539	.038
Upgrading course in EAM without certification attended by school leader	.229	.346
Workshop or seminar in EAM attended by school leader	.223	.394
Number of types of training in EAM attended by school leader	-.397	.103
Position before principal or vice-principal	.197	.037

Variable	Estimate (Effects)	Sig.
Teacher specialisation: teacher training	.006	.966
Teacher specialisation: general education	-.023	.879
Teacher specialisation: others	0a	-
Experience as teacher	-.003	.413
Teacher gender (male)	-.058	.325
Teacher's academic qualifications	.138	.286
Number of shifts in which teachers work	.082	.295
Training with academic degree attended by teacher in order to deal with the new curriculum	.141	.450
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.283	.132
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.164	.378
Workshop or seminar attended by teacher in order to deal with the new curriculum	.355	.064
Number of types of training attended by teacher in order to deal with the new curriculum	-.223	.197
Teacher concerns about competencies*	.031	.334
Teacher likes to teach according to tried and tested ideas or methods*	.136	.000
Teacher feels comfortable when work goes according to fixed routine*	.008	.756
Teacher does not like to deviate from the traditional teaching method*	.002	.931
Teacher variance	.360	.000
School variance	.072	.004

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, organisational learning dimensions (teacher reports) and individual teacher learning (teacher reports) included as additional covariates and changing teaching practices (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 14: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and changing teaching practices (teacher reports) as dependent variable, with organisational learning dimensions (teacher reports) and individual teacher learning (teacher reports) included as additional covariates

Variable	Estimate (Effects)	Sig.
Maputo-City	-.271	.066
Maputo-Province	-.237	.123
Nampula	-.114	.417
Zambezia	-.193	.184
Cabo Delgado	0a	-
School level	-.077	.519
Pupils background (school leader perception)	-.088	.339
Number of teachers existing in the school	.000	.874
Ratio pupils teacher	-.004	.316
Quality of teachers (school leader perception)	.058	.324
Number of formal leaders existing in the school	.027	.032
Vision and goals	.048	.360
Culture	-.090	.079
Structure	.020	.715
Intellectual stimulation	.141	.049
Individualized support	.085	.205
Performance expectations	.049	.260
Difference leaders vs. teachers on transformational leadership	-.000	.999
Policy and evaluation	-.045	.471
Decision making	.080	.054
Consultation and cooperation among teachers	.138	.024
Consensus	.193	.000
Individual teacher learning activities	.325	.000
School leader specialisation: teacher training	-.385	.097
School leader specialisation: general education	-.395	.134
School leader specialisation: school management	-.391	.186
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.008	.193
School leader gender (male)	-.089	.286
School leader's academic qualifications	.053	.641
School leader training in EAM topic – administrative or financial	-.100	.309

Variable	Estimate (Effects)	Sig.
management		
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.333	.184
Training in EAM that awards a certificate attended by school leader	.489	.030
Upgrading course in EAM without certification attended by school leader	.203	.332
Workshop or seminar in EAM attended by school leader	.208	.359
Number of types of training in EAM attended by school leader	-.338	.108
Position before principal or vice-principal	.164	.044
Teacher specialisation: teacher training	.052	.655
Teacher specialisation: general education	.028	.841
Teacher specialisation: others	0a	-
Experience as teacher	-.004	.240
Teacher gender (male)	.003	.956
Teacher's academic qualifications	.082	.486
Number of shifts in which teachers work	.034	.638
Training with academic degree attended by teacher in order to deal with the new curriculum	.193	.262
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.245	.154
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.140	.410
Workshop or seminar attended by teacher in order to deal with the new curriculum	.300	.087
Number of types of training attended by teacher in order to deal with the new curriculum	-.242	.126
Teacher concerns about competencies*	.016	.576
Teacher likes to teach according to tried and tested ideas or methods*	.074	.008
Teacher feels comfortable when work goes according to fixed routine*	-.011	.628
Teacher does not like to deviate from the traditional teaching method*	-.011	.633
Teacher variance	.305	.000
School variance	.047	.014

* Variables included for additional analyses

Multilevel analyses with school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) as independent variables, individual teacher learning (teacher reports) included as an additional covariate and changing teaching practices (teacher reports) as dependent variable, controlling for school context, school leader characteristics, teacher background, and other relevant teacher characteristics

Table 15: Association between school leader transformational practices (teacher reports and difference between school leaders and teacher reports as a covariate) and changing teaching practices (teacher reports) as dependent variable, with individual teacher learning (teacher reports) included as an additional covariate

Variable	Estimate (Effects)	Sig.
Maputo-City	-.386	.010
Maputo-Province	-.335	.032
Nampula	-.149	.295
Zambezia	-.226	.126
Cabo Delgado	0a	-
School level	-.105	.387
Pupils background (school leader perception)	-.044	.634
Number of teachers existing in the school	.000	.922
Ratio pupils teacher	-.005	.269
Quality of teachers (school leader perception)	.061	.312
Number of formal leaders existing in the school	.028	.030
Vision and goals	.064	.240
Culture	-.094	.075
Structure	.016	.773
Intellectual stimulation	.214	.003
Individualized support	.127	.064
Performance expectations	.074	.095
Difference leaders vs. teachers on transformational leadership	-.024	.785
Individual teacher learning activities	.393	.000
School leader specialisation: teacher training	-.366	.121
School leader specialisation: general education	-.325	.225
School leader specialisation: school management	-.355	.237
School leader specialisation: others	0a	-
Experience as principal or vice-principal	-.009	.184
School leader gender (male)	-.050	.554
School leader's academic qualifications	.034	.764
School leader training in EAM topic – administrative or financial management	-.088	.379
School leader training in EAM topic – educational leadership	0a	-
Training in EAM with academic degree attended by school leader	.380	.135
Training in EAM that awards a certificate attended by school leader	.516	.024
Upgrading course in EAM without certification attended by school leader	.230	.281

Variable	Estimate (Effects)	Sig.
Workshop or seminar in EAM attended by school leader	.227	.324
Number of types of training in EAM attended by school leader	-.377	.079
Position before principal or vice-principal	.166	.045
Teacher specialisation: teacher training	.021	.865
Teacher specialisation: general education	.004	.979
Teacher specialisation: others	0a	-
Experience as teacher	-.004	.312
Teacher gender (male)	-.028	.611
Teacher's academic qualifications	.122	.318
Number of shifts in which teachers work	.018	.812
Training with academic degree attended by teacher in order to deal with the new curriculum	.185	.296
Training that awards a certificate attended by teacher in order to deal with the new curriculum	.262	.141
Upgrading course without certification attended by teacher in order to deal with the new curriculum	.161	.360
Workshop or seminar attended by teacher in order to deal with the new curriculum	.323	.074
Number of types of training attended by teacher in order to deal with the new curriculum	-.235	.152
Teacher concerns about competencies*	.020	.500
Teacher likes to teach according to tried and tested ideas or methods*	.087	.002
Teacher feels comfortable when work goes according to fixed routine*	-.002	.932
Teacher does not like to deviate from the traditional teaching method*	.001	.966
Teacher variance	.328	.000
School variance	.046	.021

* Variables included for additional analyses

