

CHAPTER 5 PRESENTATION AND ANALYSIS OF QUANTITATIVE DATA

5.1 INTRODUCTION AND PURPOSE OF THIS CHAPTER

The problem statement in this study indicates that the purpose of the research was to investigate the variables related to instructional leadership and their contribution to learner performance in the matriculation examination. Chapter 1 reiterated a number of assumptions which suggest that the practice of instructional leadership in schools, as a role enacted by principals, can bring about improvement in learner performance.

The assumption that the instructional leadership role of principals is crucial for the improvement of learner performance has been a guiding compass for this study. Based on this assumption, I engaged in this study to investigate, as a first step, the different variables which are related to instructional leadership and their contribution to the improvement of learner performance in the matriculation examination.

The investigation was conducted in the following ways: firstly, a literature review of instructional leadership was carried out, secondly, questionnaires were distributed to principals to collect their biographical information; and thirdly, separate questionnaires were distributed to deputy principals and Heads of Departments (HODs) to obtain their perceptions with regard to the role of principals as instructional leaders. Finally, a two-phased interview process was conducted with principals, starting with a focus group interview with sixty principals, followed by a one-on-one interview session with five principals.

The purpose of this chapter is to present and analyze the data collected by means of the surveys of the principals, deputy principals and HODs. This chapter presents a justification for the quantitative method used for the first part of the study, discusses measures taken to ensure validity and reliability, and describes the ethical considerations in terms of the involvement of the respondents.

5.2 FINDINGS FROM THE LITERATURE REVIEW

Before presenting and analyzing the quantitative data in this chapter and the qualitative data in the following chapter (chapter 6), the following is a summary of the findings from the literature review. The reason for this summary of the literature is that the questions for the questionnaires and the structured interviews were informed by the arguments in the literature. This presentation is twofold: I present the findings from the literature in general, and then the findings from the two European countries (Norway and the UK), the two African countries (Nigeria and South Africa) and the USA.

The literature review generally revealed that instructional leadership, since its conception in the 1970s and the 1980s, has always been associated with concepts such as classroom practice, managing teaching and learning, and improvement of learner performance. The emergence of instructional leadership precipitated an evolutionary shift from managerial leadership, thus requiring principals to have new skills and competencies. The literature review also highlighted the fact that instructional leadership differs from other models of leadership in that it focuses on how principals and teachers may improve teaching and learning. Instructional leadership focuses on school goals, the curriculum, instruction, and the school environment (Stewart, 2006:4).

With regard to instructional leadership (IL) in the two African countries (South Africa and Nigeria), principals in Nigeria perform both instructional leadership and managerial functions. They ranked academic and instructional activities, including curriculum development, teaching and instructional supervision, second to staff and learner management, and financial management, which were treated with much vigour. Mulkeen *et al.* (2007) indicate that principals in most African countries do not regard instructional leadership highly, and thus do not view it as part of their duties. Hoadley, Christie, Jacklin and Ward (2007) and Bush and Oduro (2006) found that in South Africa, like in many other African countries, principals have not received adequate training on IL. These researchers therefore propose that there is a need for a theory of leadership relevant to the South African context.

The European countries (Norway and the UK) show a different picture to that of the African countries. In the UK, instructional leadership is not necessarily the responsibility of the principals in relation to teachers. It extends to the role of teachers in relation to their

learners. In order to enhance the latter, teachers in the UK are expected to create powerful cognitive and social tasks for their learners and teach them how to make productive use of such tasks. The purpose of instructional leadership is therefore to facilitate this approach to teaching and learning. Principals in Norway tend towards a more administrative style of school leadership rather than an instructional style. The extent to which instructional leadership is reported in Norway is relatively weak compared to other countries such as the UK, USA, Nigeria, and South Africa.

The practice of instructional leadership in the USA is conceived as a role carried out by the principals, with no reference made to teachers, HODs, or even deputy principals (Hallinger, 2005:3). Instructional leadership is not a shared responsibility as is the case in the UK. Literature has shown that during the 1980s policymakers in the USA encouraged all principals to assume this role in order to make their schools more effective. The literature review also revealed that instructional leaders in the USA lead with a combination of charisma and expertise, which implies that principals need to be trained for this leadership model.

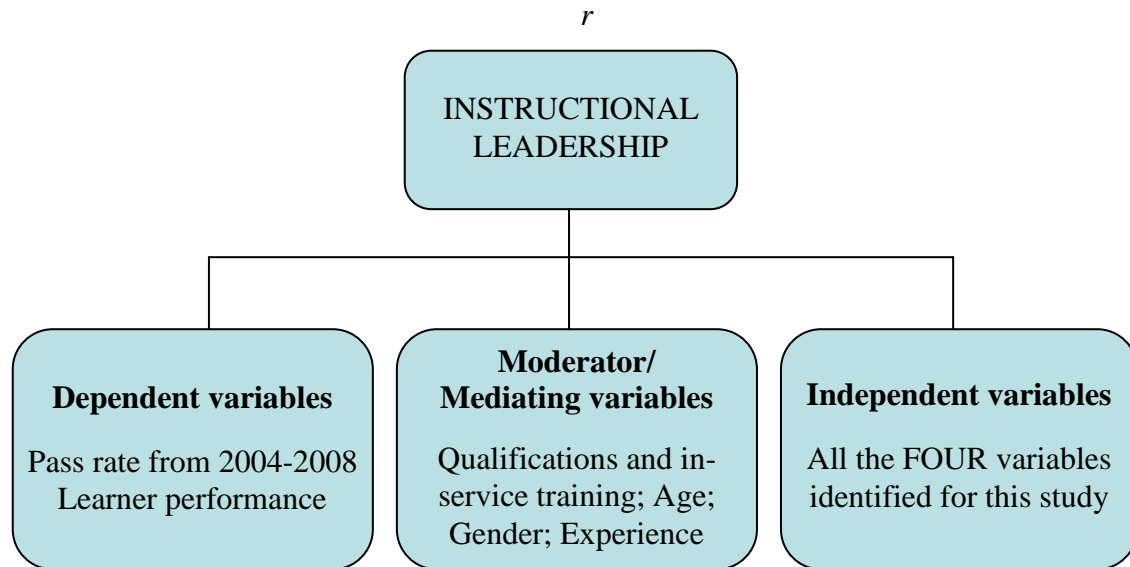
5.3 PRESENTATION AND INTERPRETATION OF THE QUESTIONNAIRE RESULTS USING FREQUENCY TABLES

After completing the administration and initial analysis of the questionnaires using SAS, the BMDP statistical software was used for statistical analysis of the data with the assistance of the official statisticians at the University of Pretoria. In this chapter, I summarize and present the results obtained from the completed questionnaires. The results from the focus group and structured interviews are presented in chapter 6.

For the quantitative data, the analysis of variance (ANOVA), multivariate regression and correlation analysis were used to compare the variables that emerged from both the principals' and deputy principals' questionnaires. ANOVA was used to compare the qualifications of the participating principals with the outcomes (results) of their schools. Multivariate regression and correlation analysis were used to deal with the statistical differences between the variables, ranging from the variables obtained from the biographical information about the principals, to the four independent variables which were identified for this study.

It is important at this stage to indicate that during the quantitative data analysis stage, the three different types of variables (dependent variables, mediating or moderator variables, and independent variables) were dealt with separately in order to explain whether or not they influenced learner performance in some way. The following diagram represents the different variables involved in this analysis:

FIGURE 5.1: Representation of the different variables involved in the analysis



Each of the above variables, with its related examples as presented in the figure above, is explored in the following sections of this chapter.

In order to explain the strength of the relationship between the variables, the Pearson correlation and the Spearman correlation coefficients were used. A Pearson product moment correlation shows the strength of the relationship between two continuous variables and it is represented by [r]. The Pearson correlation coefficient is suitable when it can be assumed that the variables are approximately normally distributed. A Spearman rank order correlation is used for the same purpose as the Pearson product moment correlation, and it is represented by [rho]. An r / rho of -1 represents a perfect negative correlation, an r / rho of 1 is a perfect positive correlation, and an r / rho of 0 means there is no correlation. The p value indicates whether the correlation is statistically significant. Depending on the size of the sample, even a very weak correlation can be statistically significant and if the sample is very small, even a very strong correlation may not be statistically significant.

5.4 DETERMINING THE RELIABILITY OF THE QUESTIONNAIRE CONSTRUCTS USING THE CRONBACH ALPHA

The Cronbach alpha is the most commonly used indicator of internal consistency. It provides reliability estimates from the consistency of item responses from a single assessment. The generally agreed upon lower limit for Cronbach's alpha is 0.70 (Hair, Anderson, Tatham & Black, 1998).

According to the exploratory factor analysis conducted by the statisticians to ensure construct validity of the questionnaire, the 28 items in the deputy principals' and HODs' questionnaire measured one underlying construct, namely, instructional leadership, in as much as the four variables identified for this study describe instructional leadership. The Cronbach alpha value of the raw data was 0.971031, whereas for the standardized data (when question 18 was removed) it was 0.971021. The Cronbach alpha coefficient for this study exceeded 0.9, thus satisfying the internal consistency requirements. The following table presents the qualitative description of the strength of the relationship between the variables and the quantitative value of [r] and/or [rho].

TABLE 5.1: Qualitative description of the strength of variables

Value of [r] / [rho]	Percentage equivalent	Qualitative description of the strength
-1	-100	Perfect negative
(-1, -0.75)	-99 to -75	Strong negative
(-0.75, -0.5)	-74 to -50	Moderate negative
(-0.5, -0.25)	-49 to -25	Weak negative
(-0.25, 0.25)	-24 to 25	No linear association
(0.25, 0.5)	25 to 49	Weak positive
(0.5, 0.75)	50 to 74	Moderate positive
(0.75, 1)	75 to 99	Strong positive
1	100	Perfect positive

The purpose of the above table is to indicate the statistical differences between the variables. For a p-value of less than 5% ($p \leq 0.05$), the findings are reported as being statistically significant, whereas for a p-value higher than 5% ($p \geq 0.05$), the findings are reported as being statistically insignificant.

5.5 ANALYSIS OF PRINCIPALS' QUESTIONNAIRES

This section focuses on the analysis of the questionnaires which were completed by the principals who participated in this study, using frequency tables. The target sample of principals who were expected to complete the questionnaire was 114 (n=114). The questionnaires were packaged according to the number of schools in each of the 14 circuits. Of the 114 questionnaires that were sent to the schools via the circuits, 78 (68.4%) were returned and 36 (31.6%) were not returned. Several attempts were made to obtain more responses, including issuing additional copies to the non-respondents, but still the outstanding questionnaires were not returned.

The following tables represent the descriptive statistics for the principals', deputy principals and HODs' questionnaires. The two correlation analysis tables are designated as table 5.2(a) and table 5.2(b) respectively.

TABLE 5.2(a): Correlation analysis

Pearson Correlation Coefficients								
Prob> r under HO:Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
Instructional leadership	r/r ho	0.09938	0.03757	0.01375	0.03031	0.01535	0.21117	-0.00460
	P	0.3898	0.7440	0.9068	0.7963	0.8946	0.0652	0.9681
	N	77	78	75	75	77	77	78
Feedback	r/r ho	0.12845	- 0.02264	- 0.08226	- 0.01791	- 0.01270	0.17029	-0.04432
	P	0.265	0.8440	0.4829	0.8788	0.9127	0.1387	0.7000
	N	77	78	75	75	77	77	78
Management	r/r ho	0.07282	0.10701	0.08093	0.07621	0.06765	0.20723	0.07356
	P	0.5291	0.3511	0.4900	0.5158	0.5588	0.0706	0.0522
	N	77	78	75	75	77	77	78

Pearson Correlation Coefficients								
Prob> r under HO:Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
Development	r/r ho	0.09161	0.02824	0.01581	0.03272	- 0.01492	0.20799	-0.03043
	P	0.428	0.8061	0.8929	0.7805	0.8975	0.0695	0.7914
	N	77	78	75	75	77	77	78
Vision	r/r ho	0.07093	0.04289	0.05645	0.03333	0.02661	0.20639	-0.00226
	P	0.5399	0.7093	0.6305	0.7765	0.8183	0.0717	0.9843
	N	77	78	75	75	77	77	78
V9A	r/r ho	- 0.14173	- 0.20295	- 0.13817	- 0.15514	- 0.00484	- 0.15238	-0.27285
	P	0.2189	0.0747	0.2372	0.1838	0.9667	0.1858	0.0157
	N	77	78	75	75	77	77	78
Experience	r/r ho	- 0.15522	0.07692	0.12508	0.03282	0.07120	0.05960	-0.09848
	P	0.1777	0.5032	0.2849	0.7798	0.5383	0.6066	0.3910
	N	77	78	78	75	77	77	78

TABLE 5.2b: Correlation analysis

Spearman Correlation Coefficients								
Prob > r under HO: Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
V15.1	R	- 0.10998	-0.14208	-0.11564	-0.06008	-0.12823	-0.08487	-0.22786
	P	0.3410	0.2147	0.3232	0.6068	0.2664	0.4630	0.0448
	N	77	78	78	75	77	77	78
V15.2	R	- 0.07234	-0.33425	-0.24847	-0.21230	-0.12878	-0.27454	-0.24307
	P	0.5318	0.0028	0.0316	0.0675	0.2643	0.05157	0.0320

Spearman Correlation Coefficients								
Prob > r under HO: Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
	N	77	78	75	75	77	77	78
V15.3	R	- 0.04659	-0.27987	-0.20205	-0.20008	-0.17572	-0.22805	-0.25326
	P	0.6874	0.0131	0.0821	0.0852	0.1264	0.0461	0.0253
	N	77	78	75	75	77	77	78
V15.4	R	0.00713	-0.14639	-0.10161	-0.09343	-0.08954	-0.16562	-0.05425
	P	0.9509	0.2009	0.3857	0.4253	0.4387	0.1500	0.6371
	N	77	78	75	75	77	77	78
V15.5	R	- 0.06993	-0.19547	-0.10273	-0.09643	-0.00337	-0.09301	-0.21581
	P	0.5456	0.0863	0.3805	0.4105	0.9763	0.4211	0.0577
	N	77	78	75	75	77	77	78
V15.6	R	- 0.08288	-0.12007	0.06298	-0.08600	-0.07410	-0.00031	-0.18308
	P	0.4736	0.2951	0.5914	0.4632	0.5219	0.9978	0.1086
	N	77	78	75	75	77	77	78
V15.7	R	- 0.03915	-0.17784	-0.20009	-0.16886	-0.17875	-0.17128	-0.18471
	P	0.7354	0.1193	0.0852	0.1476	0.1198	0.1364	0.1055
	N	77	78	75	75	77	77	78
V16.1	R	- 0.10216	0.20504	0.12317	0.08520	0.31205	0.09003	-0.01220
	P	0.3767	0.0717	0.2925	0.4673	0.0057	0.4362	0.9155
	N	77	78	75	75	77	77	78
V16.2	R	- 0.15942	0.23049	0.28886	0.22047	-0.21709	0,08951	0.16175
	P	0.1661	0.0423	0.0120	0.0573	0.0579	0.4388	0.1571
	N	77	78	75	75	77	77	78
V16.3	R	- 0.12509	0.01361	0.08391	0.07558	-0.00475	0.01764	-0.04960

Spearman Correlation Coefficients								
Prob > r under HO: Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
	P	0.2784	0.9059	0.4741	0.5193	0.9673	0.8789	0.6663
	N	77	78	75	75	77	77	78
V16.4		- 0.03446	0.17316	0.10158	0.13320	0.15198	0.11803	0.07483
		0.7660	0.1295	0.3858	0.2546	0.1870	0.3066	0.5150
		77	78	75	75	77	77	78

Spearman Correlation Coefficients								
Prob > r under Rho=0								
Number of observations								
			Mean Pass	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
V16.5	R	0.00369	0.13601	0.09146	0.09904	0.07191	-0.03382	0.16103
	P	0.9746	0.2351	0.4352	0.3979	0.5343	0.7703	0.1590
	N	77	78	75	75	77	77	78
V17.1	R	0.11280	0.13257	-0.00737	0.08628	0.09409	0.07529	0.14136
	P	0.3287	0.2473	0.9500	0.4617	0.4157	0.5152	0.2170
	N	77	78	75	75	77	77	78
V17.2	R	0.06464	- 0.03195	-0.03933	-0.01658	-0.10945	-0.07697	0.05593
	P	0.5765	0.7812	0.7376	0.8878	0.3434	0.5058	0.6267
	N	77	78	75	75	77	77	78
V17.3	R	0.17726	0.17345	-0.00704	0.21095	0.18470	0.31515	0.10891
	P	0.1230	0.1289	0.9522	0.0693	0.1078	0.0052	0.3425
	N	77	78	75	75	77	77	78
V17.4	R	0.05906	0.12329	-0.00414	0.10231	0.13957	0.16226	0.02051
	P	0.6099	0.2822	0.9717	0.3824	0.2260	0.1586	0.8585
	N	77	78	75	75	77	77	78

NB: The shaded block and numbers in all the above tables show statistical significance

The statistics captured in tables 5.2a and 5.2b were used for the analysis of the quantitative data and the results are as follows:

TABLE 5.3: Gender distribution of principals

Gender	Frequency	Percentage
Male	71	91.03
Female	7	8.97
Total	78	100

Table 5.3 above represents the gender distribution of the principals who completed the questionnaire. Of the 78 principals who completed the questionnaire, 71 (91.03%) were male and 7 (8.97%) were female. This shows that females in leadership positions in the Bushbuckridge region are under-represented, perhaps indicating that Bushbuckridge is still a very patriarchal society.

Table 5.4 below represents the age distribution of the principals who completed questionnaire. It shows that 48.72% of the principals are in the 41–49 age range, 40.92% are in the 50–59 range, and a small percentage (10.36%) are near retirement age (60+). This age distribution shows that the principals in Bushbuckridge are mainly younger than, and therefore not as experienced as their subordinates. Instructional leadership which requires monitoring, evaluation and development of teachers in the classroom could therefore be compromised due to the youthfulness of the principals and their respect for older teachers. In African culture, it is essential to respect and look up to the older and more experienced person.

Table 5.4: Age distribution of the principals

Age range	Frequency	Percentage
41 – 49	38	48.72
50 – 59	32	40.92
60 – 60+	8	10.36
Total	78	100

Table 5.5 below indicates the qualifications of the principals, where 35.9% hold a teachers' diploma plus a bachelor's degree or other qualification, which may be a further diploma in education. The highest percentage (50%) of the principals holds either a Bachelor of Education degree, a Bachelor of Education Honours degree, or a Bachelor of Arts Honours degree in addition to the teachers' diploma. The last group, which constitutes the smallest percentage (14.1%) hold, in addition to the above qualifications, a Masters' or a Doctor's degree. From this information about qualifications, it can be inferred from the high qualifications of the last two groups of principals, that they are better skilled and that their students would achieve good results in the matriculation examination.

TABLE 5.5: Distribution of the principals' qualifications

Qualifications	Frequency	Percentage
Teachers' diploma, Bachelor's degree, other	28	35.9
B.Ed., B.Ed. Honours, B.A. Honours	39	50
Master's degree, Doctor's degree	11	14.1
Total	78	100

During the analysis of the principals' questionnaire, it was necessary for the statisticians to classify the different participating schools according to the qualifications held by the principals. This was done to establish whether the type of qualifications that the principals hold had any effect on the pass rate in their schools. The researcher used the analysis of variance (ANOVA) to test for the significance of the differences among more than two sample means (Levin & Rubin, 1998:591). This enabled me to draw inferences about whether the different qualification levels of the principals drawn from the sample of participating schools had an impact on the achievement levels of learners in their schools. The following tables indicate the differences in the pass rate, with specific reference to the qualification levels of the principals of the participating schools:

TABLE 5.6: Least square means for the pass rate from 2004 to 2008

Qualifications	Pass 2004	Pass 2005	Pass 2006	Pass 2007	Pass 2008
Diploma, B.A. and other	58.84	56.12	45.60	49.69	32.16
B.Ed.; B.Ed. (Hons) and B.A. (Hons)	65.33	54.50	50.47	57.42	40.99
M.A.; M.Ed.; PhD.	50.40	48.69	45.95	43.58	27.79

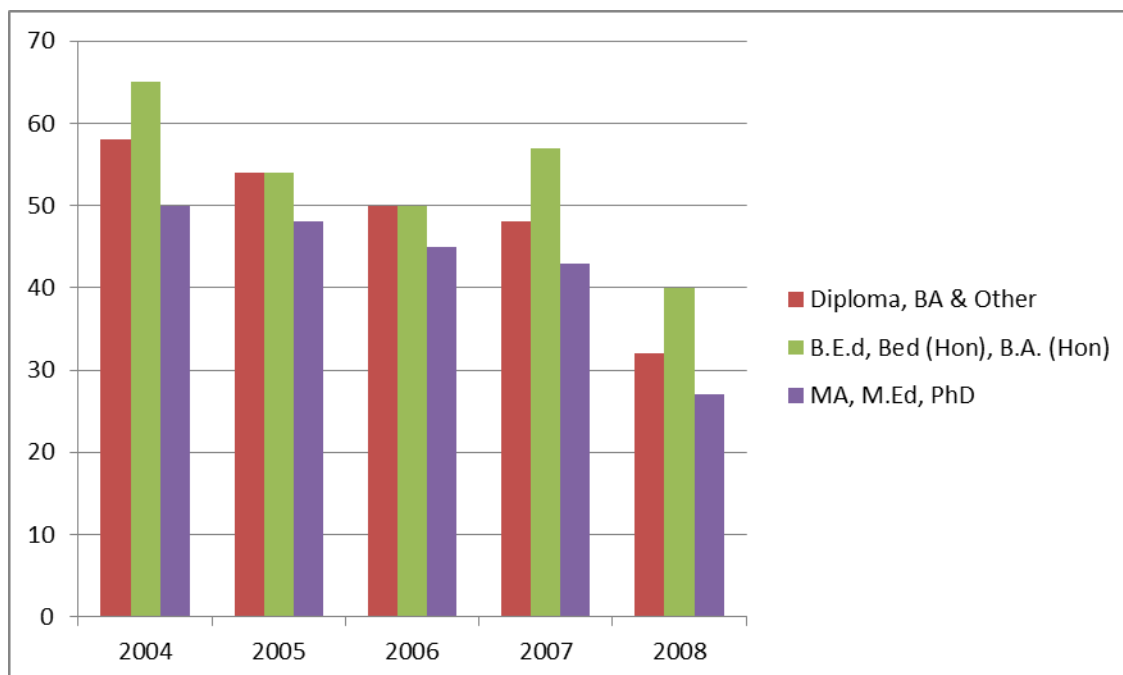
Table 5.6 represents the least square means for the pass rate from 2004 to 2008 showing that the schools where the principals hold either a Bachelor of Education degree, a Bachelor of Education Honours, or a Bachelor of Arts Honours degree achieved the best results across the years, with 65.33% in 2004, 54.50% in 2005, 50.47% in 2006, 57.42% in 2007, and 40.99% in 2008, followed by the schools where the principals are the least qualified. The pass percentage is the lowest, at 50.40% in 2004, 48.69% in 2005, 45.95% in 2006, 43.58% in 2007, and 27.79% in 2008, in schools with the highest qualified principals – those with either a Master’s or a PhD degree.

The inference may be drawn from the analysis of variance shown in the above tables that the qualifications of the principals do not always have an effect, or partially have an effect on learner performance in their schools. This implies that learner performance in any school is not entirely dependent on the qualifications of the principal. It can be further inferred that other personal characteristics and attributes of the principal, rather than qualifications alone, might be more significant in promoting learner performance. Glickman *et al.* (2005:6) contend that what is crucial is not the person’s title and qualifications, but rather his or her responsibilities.

In the literature study, Jorgenson and Peal (2008:54) state that teachers appreciate principals who occasionally offer to relieve a class, and take every opportunity to be guest teachers, demonstrating their skills and engagement in classroom life. It seems as though in the case of Bushbuckridge, these principals have little skill in classroom practice and do not take over teaching to demonstrate their teaching skills. The second reason for this incompatibility between the principals’ qualifications and learner performance is that perhaps principals are being sponsored by the department of education to improve their studies; and therefore perhaps spend time doing their university work during working hours rather than reading and implementing instructional leadership.

The following column diagram represents the fluctuating pass rate from 2004 to 2008 according to the different qualifications of the principals who completed the questionnaire.

COLUMN DIAGRAM 5.1: Representation of the pass rate from 2004 to 2008 according to the qualifications of the principals



At the planning stage of the study, it was important to determine the number of years that the principals had served as CS1, HOD, deputy principal, or as principal. The following table shows the years of experience that the principals had served in these different job categories:

TABLE 5.7: Years of experience in the different job categories CS1, HOD, deputy principal and principal

V5.1 Years as CS1	Frequency	Percentage
5 years and less	19	24.99
6 – 15 years	53	69.75
16 years and more	4	5.26
TOTAL	76	100
V5.2 Years as HOD		
5 years and less	35	67.31
6 – 12 years	17	32.69
TOTAL	52	100

V5.3 Years as Deputy Principal		
0 – 5 years	35	83.33
6 – 12 years	7	16.67
TOTAL	42	100
V5.4 Years as Principal		
1 – 9 years	33	42.85
10 – 20 years	33	42.85
21 – 28 years and more	11	14.29
TOTAL	77	100

Table 5.7 (V5.1) shows that 24.99% of the 76 principals who responded to this question served for 5 years and less as CS1 educators before they became principals, while 69.75% served for more than six years, and 5.26% served for 16 years and more. The principals who served within the range of 6 to 15 years could be expected to respond more appropriately to the questionnaire than those in the 5 years and below range. The statistics show that the principals in the 5 years and below range do not have enough experience in the classroom to be good instructional leaders. Perhaps their appointment was based on qualifications and the outcomes of an interview, without taking into consideration the value of good classroom experience.

V5.2 in the table above indicates that of the 52 principals who responded to this question, 67.31% served for 5 years and less as HODs before they became principals, while 32.69% served for a minimum of six years and a maximum of 12 years before they became principals. According to the statistics in table 5.2a above there is no correlation between the teachers' number of years of experience in any level, and the level of learner performance.

Instructional leadership requires the principal to: promote frequent and appropriate school-wide teacher development activities; define and communicate shared vision and goals of the school; monitor and provide feedback on the teaching and learning process; and manage the curriculum and instruction. If 67.31% of the principals have less than 5 years of experience as HODs and 83.33% of them less than 5 years as deputy principals, then it is highly likely that they are not instructionally prepared for their roles as instructional leaders.

V5.3 in the table above indicates that of the 42 principals who responded to this question, 83.33% served for five years and less as deputy principals and the remaining 16.67% served

for more than six years as deputy principals before they became principals. The inference that can be drawn from this information is that even if the 83.33% of principals served longer as HODs than as deputy principals, a longer time served as a deputy principal would have given them more hands-on leadership capacity than the length of time spent as an HOD.

V5.4 in the table above indicates that of the 77 principals who responded to this question, 33 (42.85%) have served as principals for 9 years and less, and the same number and percentage have served for 10 to 20 years as principals. The remaining 14.29% have served for 21 years and more. The inference that may be drawn is that the last two groups of principals have more experience in leadership that may be used to improve learner performance in the matriculation examination. Whether or not they are good instructional leaders remains an unanswered question. It seems that when aspiring principals are shortlisted for a principalship position, excellence in classroom teaching is not regarded as a job specific criterion.

To sum up this section, Barends (2004:6), one of the advocates of instructional leadership, comments as follows about teaching experience:

“Teaching experience is important in being a good principal. It is not that one cannot be a principal having not been a teacher. A principal is a master teacher. The principal needs to be able to model and offer suggestions on classroom control to the teacher.....I strongly feel that one should be careful about moving through the levels syndrome. One of the damage we do to aspiring teachers is to say that if you want to be a principal you have to be a head of department, deputy principal and finally, principal.”

Barends’ (2004) argument protests against the assumption that one becomes a good principal if one has gone through the different levels, which he refers to as “the levels syndrome”. As I have argued above, excellence in classroom teaching should be used as one of the criteria for the identification of prospective principals.

TABLE 5.8: Distribution of the geographic locations of the schools

V7: School geographic background	Frequency	Percentage
Township	5	6.41
Rural area	73	93.59
Total	78	100

Assuming that the geographical background of the schools might have an impact on the achievement levels of the learners and the performance of teachers, it was necessary to determine in which areas the different participating schools are situated. Table 5.8 above indicates that there is an uneven distribution of schools between the townships and the rural areas. This situation is due to the fact that Bushbuckridge is historically a rural area, with a few townships which started developing during the early 1990s. Today many learners and teachers travel from the townships to attend school in the rural areas which makes it inappropriate at this stage of the research to infer that the poor performance of learners is due to the geographical background of their schools.

The poor performance of the learners may be attributed to other factors, such as lack of interest on the part of the learners, or low morale on the part of the teachers, particularly with regard to the implementation of the National Curriculum Statement (NCS). These attitudinal variables could have led to inertia in the enactment of instructional leadership. This view is pursued further in the following sections of the thesis.

The rural background of the majority of the schools, as indicated in the above table, can also be associated with the affluence of the families from which the majority of the learners come. The analysis of the data in relation to V9A (learners' backgrounds) shows a statistically significant positive correlation in 2008 ($p=0.015$) between poor learner performance and the economic conditions at home. Due to the fact that the pass percentage was the lowest in 2008 (according to the statistics), it means that learners from disadvantaged backgrounds performed poorly as compared to learners from affluent backgrounds. It could also be true that in some cases learners from rural areas perform better than learners from urban areas. The background of learners, therefore, may significantly affect the improvement or decline in learner performance.

TABLE 5.9: Distribution of the number of learners enrolled for the matriculation examination and their performance

Year	Enrolment	Pass	Percentage	Fail	Percentage	Frequency
2004	5182	2479	47.83	2703	52.16	75
2005	5918	2938	49.64	2980	50.35	75
2006	5428	2146	39.53	3282	60.46	77
2007	6373	3163	49.63	3210	50.36	77
2008	6735	2416	35.87	4319	64.12	78
Total	29636	13142	44.34	16494	55.65	

Table 5.9 above indicates the number of learners who were enrolled for the matriculation examination in each year from 2004 to 2008, the number and percentage of learners who passed, and the number and percentage that failed. It is clear from the table that patterns of learner performance in the schools that participated in this survey have been fluctuating over the years. The data in the above table confirms the concern which prompted the researcher to engage in this study to investigate the instructional leadership practices of principals, and how these might lead to an improvement in the declining pass rate in the matriculation examination.

TABLE 5.10: Distribution of the management qualifications of principals

V11: Management Qualification	Frequency	Percentage
YES	60	76.92
NO	18	23.08
TOTAL	78	100

Table 5.10 indicates that the majority (76.92%) of the participating principals have a/some management qualification(s), while the minority (23.08%) have none. The inference that can be drawn from this information is that with such a large number of principals having management qualifications, the leadership and management of teaching and learning in the schools in the Bushbuckridge Region in general, and the participating schools in particular, should be above average, and learner performance in such schools could be expected to be better. However, the management qualifications might be highly theoretical and it could be

inferred that the principals are not able to apply the theories professionally and institutionally.

TABLE 5.10(a): Distribution of the extent to which principals perceive their management qualifications to enhance their capacity to perform instructional leadership

V12: Extent of effect of management qualification	Frequency	Percentage
Greatly	47	74.60
Partially	14	22.22
Not at all	2	3.17
Total	63	100

Table 5.10(a) above indicates that of the 63 principals who responded to this question, 74.60% of them feel that their management qualifications greatly enhance their capacity to perform their instructional leadership duties, 22.22% indicated that these qualifications partially enhance their capacity, while a small percentage (3.17%) do not consider it to enhance their leadership capacity at all. These statistics show that the principals' beliefs, values and actions are contradictory. The low performance of learners may be evidence of the lack of leadership duties performed by the principals.

The extent to which the principals' management qualifications enhance their practice is linked to the in-service training which they received about instructional leadership. The following table presents the least square means for the effect of in-service training from 2004 to 2008:

TABLE 5.10(b): Least square means for the effect of in-service training of principals on learner performance

Extent of the effect of in-service training	PASS MEANS				
	2004	2005	2006	2007	2008
Greatly	64.4%	56.13%	50%	52.3%	37.49%
Partially	53.6%	50%	55.1%	55.1%	35.8%
Not at all	57%	52.8%	42.4%	52.3%	32%
P value	0.1648	0.6119	0.4126	0.9067	0.6180

Table 5.10(b) above explores the extent to which the in-service training of principals (V12) has influenced their practice of instructional leadership which in turn, influences learner performance. In all cases, the p value is greater than 0.05 ($p > 0.05$), ranging from 0.16 in 2004; 0.61 in 2005; 0.41 in 2006; 0.9 in 2007 to 0.61 in 2008. The inference that can be drawn from the statistics in the above table is that there is no significant relationship between in-service training, instructional leadership, and learner performance.

In 2004, for example, 64.4% of the principals indicated that in-service training influences their practice of instructional leadership greatly, 53% partially, and 57% not at all; but the pass percentage (47%) shows no correlation with the fact that in-service training influences their practice greatly. There is however, some level of compatibility between the pass percentage in 2008 (35.8%) with the extent to which the principals indicated that in-service training influences their practice of instructional leadership, with 37.49% saying that in-service training influences their practice greatly, 35.8% partially, and 32% not at all.

TABLE 5.11: Distribution of instructional time in hours that principals devote to instructional leadership activities per day

V13H: Instructional time in hours	Frequency	Percentage
3-5 hours	14	18.42
6-8 hours	62	81.58
Total	76	100

Table 5.11 above indicates that 18.42% of the participating principals spend 3 to 5 hours per day on instructional leadership activities, while the larger percentage (81.58%) spend

between 6 and 8 hours of their working day on instructional leadership activities. The inference that can be drawn from this data is that the more time the principals spend on instructional leadership activities, such as motivating teachers and learners, engaging teachers in development activities, monitoring and evaluating the work of the teachers, and ensuring the realization of the school vision and goals, the better the performance of the learners would be. Perhaps the principals are not aware of the instructional leadership duties that they should perform.

TABLE 5.12: Distribution of the responses to V15.1; V15.2; V15.3; V16.1; V16.2 and V17.3

Variables	r/rho value	p value	years
V15.1: Teachers' job satisfaction	-0.22786	0.0448	2008
V15.2: Teachers' understanding of the school's curricular goals	-0.24847	0.0316	2004
	-0.27454	0.0157	2007
	-0.24307	0.0320	2008
V15.3: Teachers' degree of success in implementing the school curriculum	-0.22805	0.0461	2007
	-0.25326	0.0253	2008
V16.1: Teachers supporting the implementation of the NCS	0.31205	0.0057	2006
V16.2: Teachers' involvement in designing and/or supporting the school's improvement goals	0.28886	0.0120	2004
V17.3: Using learner achievement to evaluate the practice of grade 12 educators	0.31515	0.0052	2007

NB: Only the statistically significant scores are displayed in the table above

Table 5.12 indicates the strength of different variables relating to the principals' opinions of their own professional practice, how they view the practice of the teachers in their schools, and how the activities of both the principals and teachers influence learner performance in the matriculation examination. The different cases are reported below, which should be read together with tables 5.2(a) and 5.2(b).

For variable V15.1 there is a statistically significant correlation between **teachers' job satisfaction** and the pass rate in 2008, with the values of $\rho=0.22786$ and $p=0.0448$. Teachers' job satisfaction could be directly attributed to the principal's practice of instructional leadership. If the principal provides the necessary and appropriate instructional

support to the teachers, resources to assist them in fulfilling their instructional obligations, and incentives to reward good performance, the teachers will work hard to improve learner performance. This correlation can be explained as a weak one, in the sense that the pass rate in 2008 is the lowest (35.8%) when compared to the other years; it further suggests that teacher job satisfaction was low during this year. This finding therefore suggests that the lower the teachers' job satisfaction, the poorer the learner results will be.

Teachers' understanding of the schools' curricular goals (V15.2) shows a statistically significant correlation with the pass rate in 2004 ($\rho=0.24847$; $p=0.0316$); in 2007 ($\rho=0.27454$; $p=0.0157$); and in 2008 ($\rho=-0.24307$; $p=0.0320$). In 2004 and 2007, where the pass rates are 47% and 49% respectively, there is a positive correlation between the teachers' understanding of the schools' curricular goals and the improvement in learner performance. In 2008, on the contrary, with a pass rate of 35.8%, there is a positive correlation between poor learner performance and the teachers' understanding of the schools' curricular goals. This implies that the principal should involve the entire staff in the formulation of the school's curricular goals. The more the teachers participate in the formulation of the school goals, the more they will declare ownership of such goals. This will enable them to work hard towards achieving these goals, which in turn will have an impact on the improvement of learner performance.

Teachers' degree of success in implementing the school's curricular goals (V15.3) shows a statistically significant correlation with the pass rate in 2007 ($\rho=0.22805$; $p=0.0461$) and in 2008 ($\rho=0.25326$; $p=0.0253$). The success of the teachers in implementing the school's curricular goals depends on their understanding of the curricular goals; the more they understand the curricular goals, the more they will succeed in implementing them. This success is likely to have an impact on the improvement of learner performance.

Parental support for learners' achievement (V15.5): With the poor performance of the learners in 2008 (35.8%), the p value of 0.0577 indicates that there is a positive correlation between poor learner performance and the low level of parental support. From this, it can be inferred that Bushbuckridge, being an area characterized by poverty and an acute level of unemployment, probably has an illiterate parent community who do not participate in the education of their children. It could also be that most of the parents work away from home,

causing a support gap between themselves and their children due to the long distances travelled and time spent away from home.

Teachers supporting the implementation of the NCS (V16.1) shows a statistically significant correlation with the pass rate in 2006 ($\rho=0.31205$; $p=0.0057$). The National Curriculum Statement is the written core curriculum in all South African schools. It is imperative for the principal, as an instructional leader, to support the implementation of this curriculum. In chapter 2, under the sub-heading of ‘Managing the curriculum and instruction’, it was indicated that the success of the principal in managing the curriculum and instruction depends on his/her collaboration with staff and attending learning area workshops with them. This will ensure that the principal is able to intervene and assist the staff, and also provide the necessary resources.

Teachers’ involvement in designing and supporting the school’s improvement goals (V16.2) shows a positive correlation with the mean pass rate. In 2004, 2005 and 2006 the statistics show a positive correlation between learner performance and the level of the teachers’ involvement in designing and supporting the schools improvement goals, with p values of 0.012; 0.0573; and 0.0579 respectively. Teachers will perform better and impact on learner performance positively if they are involved in designing the school’s improvement goals. The teachers must be able to own the school’s improvement goals and once this becomes the norm in the school, the teachers will be more focused, and achieving the school goals will become their primary focus.

Using learner achievement to evaluate the practice of grade 12 educators (V17.3) shows a statistically significant correlation with the pass rate in 2007 ($\rho=0.31515$; $p=0.0052$). The principal, together with his/her teachers, must use the previous year’s grade 12 results to build a “winning team” for the school. Subject teachers whose learners consistently perform well should be retained in that grade, and for those who consistently underperform, the performance of their learners should be used as a means to develop their skills. In this way, the school will be able to consolidate a winning team that will contribute to improved learner performance.

The inferences that can be drawn from the correlation analysis above are the following:

- Teachers need to have some degree of job satisfaction and this can be achieved by recognition of good performance through incentives offered by the school. Poor

performance of learners could be attributed to a low level of teacher job satisfaction, as is the case with the performance of learners in the 2008 matriculation examination (pass rate of 35.87%), and in the 2006 matriculation examination (pass rate of 39.53%). It can also be inferred that in cases such as the 2004, 2005 and 2007 pass rates (47.83%, 49.64% and 49.63% respectively), the teachers experienced some degree of job satisfaction. This therefore means that learner performance increases or improves with the improvement in teacher job satisfaction, and decreases or declines with a decline in teacher job satisfaction.

- The school's curriculum goals must be clear to all teachers and the principal must ensure that agreed-upon implementation strategies are observed by all teachers in the school. This implies that only clear learning and performance goals can guide the development of effective teaching and learning which can result in measurable improvements in learner performance. The fluctuation in the matriculation pass rate between the different years under review (2004 to 2008) could be associated with the different levels of understanding of the curricular goals by the teachers. These differences in the levels of understanding could be attributed to several factors which may include low morale on the part of teachers as a result of their temporary appointment status (which is very common in Bushbuckridge); lack of appropriate training on the new curriculum and its mode of delivery; and the extent to which the principal initiates, controls and monitors the implementation of the school's curricular goals.
- The principal needs to create avenues for motivating teachers to support the implementation of the National Curriculum Statement. School-based teacher development activities can assist in this regard. Motivating and encouraging teachers are two psychological variables that can have a marked impact on the improvement of learner performance. Motivated and enthusiastic teachers will no doubt succeed in empowering their learners to contribute towards their own improved performance.
- The school's improvement goals should not be a product of only the office of the principal or the SMT. Involving all the teachers in this enterprise will facilitate the teachers' ownership of these goals, which will encourage them to work hard towards achieving them.

- The achievement of learners each year, particularly in the matriculation examination, should be used as a tool to evaluate the practice of the teachers concerned. In order to provide effective instruction that will result in improved learner performance, teachers must be researchers who are able to use research-based performance improvement strategies to plan their instruction. Intervention strategies to improve performance can only be made from such an exercise.

TABLE 5.13: Distribution of the responses to V14.1 to V14.6: time spent by the principal on different activities in the school

Variable	Description	Percentage
V14.1	Administrative duties	32.85
V14.2	Instructional leadership	22.88
V14.3	Supervising and evaluating teachers and other staff	25.46
V14.4	Teaching	17.31
V14.5	Public relations and fundraising	12.55
V14.6	Other	15.57

Table 5.13 above indicates the distribution of the responses of the principals to V14.1 to V14.6 which relate to the time spent by the principal on different activities in the school. The statistics in this table show that generally, the principals who responded to this question spend the largest percentage of their time on administrative duties (32.85%), followed by 25.46% of their time being spent on the supervision and evaluation of teachers and other staff. Instructional leadership, which is the focus of this study, was allocated 22.88% of their time, followed by teaching (17.31%), other activities (15.57%), and public relations receiving the lowest percentage at 12.55%.

The primary purpose of the above question was to establish the extent to which principals spend their time on instructional leadership. The statistics show that they spend more time on administrative duties, supervision and evaluation than on instructional leadership. The poor performance of learners in the matriculation examination could be attributed to this limited attention given to instructional leadership. In chapter 1 it was reported that Enueme and Egwunyenga (2008:1) view instructional leadership as a blend of supervision, staff development and curriculum development that facilitates school improvement. Given this view, if the same principals who indicated that they spend time on instructional leadership

were also to spend time on supervision and evaluation, this could possibly contribute to improved learner performance.

The quantitative data analysis presented above emanates from the data collected from the principals' questionnaire. The following section focuses on the analysis of the deputy principals' and HODs' questionnaire, the purpose of which was to obtain the perceptions of the deputy principals and HODs with regard to the instructional leadership practices of their principals. The questionnaire was structured according to the four variables which were identified, for the purpose of this study, as being related to instructional leadership.

5.6 DISCUSSION OF SOME OF THE MEAN SCORES FROM THE DEPUTY PRINCIPALS' AND HODS' QUESTIONNAIRE

The following discussion involves the mean scores of the four independent variables which were identified for this study. A frequency table is provided for the four variables, to explain whether there is any statistical significance between the independent variables and the pass rate in the matriculation examination. Correlation analysis was used for this part of the data analysis.

Table 5.14: Mean scores for the four independent variables related to instructional leadership

Variables	r/rho values	p value
Managing the curriculum and instruction	0.10701	0.3511
Defining and communicating shared vision and goals	0.04289	0.7093
Promoting frequent and appropriate school-wide teacher development activities	0.02824	0.8061
Monitoring and providing feedback on the teaching and learning process	-0.02264	0.8440

Table 5.14 can be regarded as the centrepiece of this study in the sense that its primary purpose is to investigate the extent to which the four main variables impact on the improvement in the performance of learners in the matriculation examination. Using correlation analysis to investigate the data captured, the value of p should be smaller than or equal to 0.05 ($p \leq 0.05$) in order for the correlation to be regarded as statistically significant.

In all the cases in the table above, $p > 0.05$ which indicates that the correlation is not statistically significant.

The conclusion that can be drawn from the findings in the above table is that the four variables, which were identified as characteristics of instructional leadership, do not have any effect on the pass rate. From this conclusion, it can be inferred that the enactment of the above functions by the principal may not bring any improvement in learner performance. This therefore implies that there are other activities in which principals should engage in order to bring about improvement in learner performance in the matriculation examination.

Noticeably the variable ‘managing the curriculum and instruction’, has a p-value of 0.3511 which is considerably lower than the other three variables; this is therefore the most important variable of the four. Research (see section 2.5.7.4) has shown that instructional leaders need to have up-to-date knowledge of three areas of education: curriculum, instruction and assessment (Jenkins, 2009:34). The principal also needs to keep abreast of new developments with regard to curriculum by attending curriculum workshops with his teachers, as this will assist him/her to provide the necessary support to the teachers with regard to the implementation of the curriculum. The importance of this variable to learner performance is supported by Mednick’s view (2003) that when principals teach in the classroom, they are enabled to obtain instructional resources and professional development opportunities that improve teaching, learning and assessment practices for teachers.

The literature that was reviewed to provide secondary data for this research, from both African and western sources, revealed that the four variables indicated above are among many other variables that are related to instructional leadership. Some of the literature also refers to such variables as “functions” of the principal. Any research findings that contradict the above conclusions regarding the four variables may indicate that further investigation of instructional leadership and its relevance to the improvement of learner performance is necessary. Such findings also call for deeper questioning as to whether instructional leadership is a prerequisite for appointment as a principal, and whether principals themselves view instructional leadership as a key to the improvement of learner performance.

The quantitative data analyzed in this chapter emanates from the responses of the principals to the questionnaire which was specifically designed to collect their biographic and other

information related to their practice as instructional leaders. The data collected from the deputy principals' and HODs' questionnaire, which was designed to solicit information regarding their perceptions about the role of their principals as instructional leaders, has also been presented and discussed. The following chapter reports on the findings from the interviews which were conducted with principals. Two qualitative research reports are provided in chapter 6: firstly, the findings from the focus group interview, and secondly, the findings from the structured interview.