

# **Linking Teacher Effectiveness to School Performance: Evidence from Rural Day-Secondary Schools in the Western Province of Zambia**

Paul Kakupa, Pilira Tembo and Harrison Daka

Department of Educational Administration and Policy Studies,

University of Zambia, Lusaka, Zambia

Email: [paul.kakupa@unza.zm](mailto:paul.kakupa@unza.zm) , [kakupapaul@rocketmail.com](mailto:kakupapaul@rocketmail.com)

## **Abstract**

This study aimed at establishing particular aspects of teacher effectiveness in the rural day-secondary schools of the Western Province of Zambia. The objectives of the study were to explore the characteristics and practices of teachers in high and low performing rural day-secondary schools and investigate the major hindrances to teacher effectiveness in these schools. Using a multiple case-study design, the study collected the data from 128 participants drawn from two pairs of day-secondary schools; classified as either high performing or low performing. The data were collected using questionnaires, interviews, focus groups and observations. The findings were that the high performing schools were characterised by highly motivated teachers; mostly with diploma qualifications, presence of local professional development activities, frequent academic monitoring of pupils and positive teacher expectations of pupils' success. Teachers' sex and experience at a school were not associated with effectiveness. The factors threatening teacher effectiveness included inadequate infrastructure, poor conditions of service, insufficient teaching materials, and teacher absenteeism.

**Keywords:** Teacher Effectiveness, Continuing Professional Development, Academic Performance, Rural Schools

## **1. Introduction**

Education policy makers and practitioners have increasingly paid attention to the potential connection between teaching quality and student achievement. Many studies have shown that academic performance is influenced by a myriad of factors such as student abilities, skills, motivation, family background, school climate, teaching and instructional factors (Scheerens, 2000; OECD, 2005; Palardy, 2008). These could be categorised at three levels namely: student, school and classroom levels.

However, despite the various factors combining to influence student learning, there has been consensus among researchers that teachers matter more than any other aspect of schooling (Hightower *et al*, 2011). Research has consistently shown that teacher effectiveness is the most significant school-based factor in student achievement (Rowan *et al*, 2002; Hanushek *et al*, 2004; Rivkin *et al*, 2005). It has actually, been argued that the difference between the more effective and the less effective schools is in the proportion of their effective teachers (Sammons *et al*, 1995).

In addition, studies in developing countries continue to show that the effects of teacher quality are on-going and long-lasting such that having as few as two ineffective teachers in a row can make a student fail to catch up with his or her peers (Rivers, 1999; McCaffrey *et al*, 2003; Cooper and Alvarado, 2006). It is for this reason that world-over, the concern is shifting from merely having enough teachers to having enough numbers of quality teachers (Cooper and Alvarado, 2006).

Evidence from the Examinations Council of Zambia (ECZ) has revealed that some rural day-secondary schools in Zambia have proved to be academically successful despite their challenging contexts. This was clear from their sustained higher achievement in the national school certificate examinations for the period 2010 to 2013 (ECZ, 2011; ECZ, 2012; ECZ, 2013). Noting that teachers are the major agents in education delivery, this study set out to investigate the characteristics and practices of teachers which distinguished the high from the low performing rural day-secondary schools in the Western Province of Zambia.

## **2. Purpose of the study**

The purpose was to shed light on the particular characteristics and practices of teachers in both high and low performing schools. The study is significant, in that it informs policymakers, school leaders, teachers and other concerned stakeholders about some of the teacher-related factors that might explain the achievement gap between high and low performing schools in rural areas. Knowing these factors is a first step towards improving teacher quality and student performance.

## **Research questions**

This study asked the following questions:

- (i) What characteristics and practices of teachers distinguished high from low performing rural day-secondary schools in the Western Province?
- (ii) What factors threatened teacher effectiveness in the rural day-secondary schools?

## **3. Review of related literature**

Learning is the core business of the educational process (World Bank, 1986). Teaching, on the other hand, facilitates learning. For this reason, teachers ought to be recognised as an important resource in shaping student learning. After all, they account for more than 70 per cent of the education budget expenditure in many countries (UNESCO, 2007). Teachers are definitely, the most costly resource in the educational process.

However, despite being the most costly resource, not all teachers have a positive bearing on student learning. Rather, only quality or effective teachers do (Hightower *et al*, 2011). The task of many scholars has then been to define a quality teacher. One simple definition that has been given is that an effective teacher is one who positively impacts on students' classroom performance (OECD, 2005). He or she does this through a combination of many qualities such as mastery of the subject matter, pedagogical and interpersonal skills (UNESCO, 2003; World Bank, 2006).

According to the Centre for High Impact Philanthropy (2010: 7), "quality teachers are life-long learners in their subject areas, teach with commitment...and leverage available resources outside as well as inside the classroom." This definition therefore, implies that an effective teacher is one who effectively maximises the minimum resources at his or her disposal for student learning.

Teaching quality has often been measured in terms of students' test scores. As a matter of fact, most of the studies that have concluded that teacher quality is number one determinant of academic success have relied on test performance as a basis for the conclusion (Hightower *et al*, 2011). Nevertheless, the use of scores as a measure of teacher effectiveness has also been described as unreliable due to the fact that it potentially "encourages too much testing, too much test prep, gaming the system and even cheating" for the sake of higher scores (*Ibid*: 5).

A distinction has to be made between quality teachers and qualified teachers. Qualified teachers are those with minimum credentials required for teaching. In the Zambian education system, degree holders are the qualified teachers to teach in secondary schools while those with diplomas are only qualified to teach in primary schools (MoE, 1996). Quality teachers, on the contrary, are those who are capable of positively influencing student learning (Cooper and Alvarado, 2006). In fact, it does not always follow that a qualified teacher will automatically become effective.

Effectiveness has very little to do with credentials but more to do with desirable personal attributes such as commitment, motivation and interpersonal skills among others. Teacher effectiveness can be affected when 'qualified' teachers fail to build a sense of commitment to a school they have been deployed to. This may be a common case in Zambia, where the system of teacher deployment does not allow the prospective teachers to choose their preferred schools, but rather, requires them to be prepared to be sent anywhere, where their services might be needed.

To further emphasize the fact that a highly qualified teacher is not always an effective teacher and vice versa, Malambo's (2012) study on the factors affecting the performance of pupils in grant-aided and non-grant aided secondary schools, found that there were more teachers with diplomas than degrees in the high performing grant-aided schools. At the same time, there were more degree holders in the low performing non-granted aided schools.

Going by the definition of a qualified secondary school teacher in Zambia, a diploma holder is not qualified (MoE, 1996). Yet, in his study, Malambo (2012) reveals that the 'unqualified' teachers (who were teaching in secondary schools) proved to be more effective than their 'qualified' counterparts. No wonder, Darling-Hammond (1999) argues that an effective teacher cannot be defined by the training school they attended, the credentials they hold or the number of years they have been teaching. On the contrary, they are better assessed by observing their actual classroom performance and their pupils' levels of progress.

A few studies conducted on teacher effectiveness in Zambia have tended to focus on describing perceptions about effective teachers. For example, Kayungwa (2002) inquired into the qualities of effective teachers as perceived by secondary school teachers and twelfth-grade pupils in Lusaka. The findings revealed that an effective teacher was perceived as one who prepared lessons, taught in an interesting manner and explained things clearly. Kayungwa (2002) also found that highly qualified teachers were highly perceived to be more effective in terms of teaching confidently and handling pupils' questions.

Mutale (2010) also conducted a study aimed at identifying perceptions of effective teacher qualities among Lusaka urban high school managers and teachers. The identified attributes included subject mastery, classroom management, time management, discipline and hardwork among others. However, like Kayungwa's (2002), Mutale's (2010) conclusions were also based on mere perceptions rather than actual observed data.

Despite the presence of a few more studies on other aspects of the teaching profession, there was an existing gap in the Zambian literature regarding the actual practices (not perceived) and characteristics of teachers in high and low performing schools. The present study set out to fill this gap by comparing the characteristics of teachers in the two categories of schools. Unlike other studies which mainly focused on urban schools, this study targeted the rural-day secondary schools. Rural day-schools are those which operate in areas of difficult socio-economic conditions, and do not usually have boarding facilities for learners who come from distant places. The decision to classify these schools, as either low or high performing, was based on their School Certificate examinations performance, analysed over a three year period (2010 to 2012).

#### 4. Methodology

This study employed a qualitative methodology. In particular, a multiple case-study design was used to collect information from a group of four rural day-secondary schools in the Western Province. The sample was drawn from a universe of head teachers, teachers and pupils in the day-secondary schools of the Western Province.

In total there were 124 participants, distributed as follows: four head teachers, 40 teachers and 80 pupils. While the head teachers were purposively sampled, the teachers and pupils were randomly selected. A sample of ten teachers and twenty pupils was used per school. The four rural day-secondary schools were purposively sampled after an analysis of their national school certificate examinations results for the period 2010 to 2012. Two of the schools had sustained a high performance while the other pair had a dwindling performance as shown in table 1 below:

Table 1: The average performance of pupils in the school certificate examinations from 2010 to 2012.

	2010	2011	2012
NK Secondary	70.6%	76.0%	71.6%
LP Secondary	29.8%	65.7%	71.2%
MG Secondary	54.7%	19.8%	32.2%
FW Secondary	43.4%	42.3%	33.3%

Source: ECZ

#### Research Instruments

The study used semi-structured interview guides on the four head teachers; semi-structured questionnaires on the teachers and focus group discussion guides on the pupils. An observation checklist was also used to capture information about teachers' comments and conversations which reflected their attitudes. The questionnaires recorded a 93 per cent response rate, as only three out of 40 were not returned.

#### Data Collection Procedure

The researchers analysed the examination results for all the day-secondary schools in the Western Province. During the analysis, a pattern emerged in which some schools appeared to maintain good average performance of 50 per cent and above, while others were deteriorating. At this point, the researchers created two broad categories of schools- the low performing and the high performing.

The next step was to purposively sample two schools from each category on the basis of rural classification and easy accessibility. With the permission of the Provincial Education Officer (PEO), District Education Board Secretaries (DEBS) and head teachers, the data were collected and compiled between January and February, 2014.

### Data Analysis

Constant comparative analysis was used to analyse the data from the interviews, focus groups, observations and some components of the questionnaire. All individual responses and entries were carefully analysed to yield themes and concepts. These were further analysed to form categories in line with the major questions of the study. The emerging categories were then compared with those from other data sources. For instance, the categories from the focus groups were compared with those from the interviews and observations. This process led to the generation of the final and meaningful categories.

The data from the questionnaires, which were numerical in nature, were analysed using the Statistical Package for Social Sciences (SPSS) to generate simple descriptive statics in form of frequencies and percentages. The accuracy of findings was achieved through the use of both methodological and data triangulation strategies. For example, in the analysis process, the data from the interviews were compared with those from the observations and focus groups. At the same time, the data from the head teachers were compared with those from pupils and teachers.

### Ethical Considerations

All ethical issues in the research process from topic formulation to data reporting stages were strictly adhered to. The participants' informed consent was rightfully sought. In addition, their privacy was strongly guaranteed. As such, their identities as well as that of their schools have not been disclosed. In order to ensure easy reference to the schools, pseudonyms of NK and LP were created to represent the high performing schools, while the low performing schools were given the pseudonyms of MG and FW.

## 5. Findings

### 5.1 Characteristics of teachers that distinguished high from low performing schools

Table 2: Teacher Characteristics

Performance Status			Teacher Characteristics				
			No. of Teachers	No. of teachers with diplomas	No. of teachers with degrees	Gender	
						M	F
High Performing School	NK	27	20 (74%)	7 (26%)	19	8	
	LP	24	19 (79%)	5 (21%)	22	2	
Low Performing School	MG	26	8 (31%)	19 (69%)	20	6	
	FW	26	17 (65%)	9 (35%)	22	4	

The table above shows that the two high performing schools had the largest percentage of teachers of diploma qualification at 74 per cent and 79 per cent respectively. Out of 27 teachers at NK Secondary School, only seven had a degree. This was confirmed by the head teacher during an interview.

*Most of our teachers are diploma holders but all of them are upgrading...*  
(Headteacher, NK Secondary School).

Similarly, at LP School, only five out of 24 teachers had a degree. Out of the nine questionnaire respondents at the school, seven were diploma holders. In addition, the results show that there were more male teachers than female teachers in both the high performing schools in this study.

One of the low performing schools, MG had 69 per cent of its teaching staff qualified to degree level. With a total of 26 teachers, only eight were diploma holders. Out of the ten randomly selected respondents to the questionnaire, seven were degree holders while three had diplomas. However, the other low performing school, FW, had seventeen diploma holders and only nine degree holders.

The gender situation in the low performing schools was not different from that obtaining in the high performing schools. Out of the 26 teachers at MG School, only six were female. At FW School, 22 teachers were males while only four were females. Teachers' gender seemed to have had no influence on the performance differences among the schools. All the sampled schools, regardless of their performance status (whether low or high), had very few female teachers compared to male teachers.

## 5.2 Length of Teaching Experience in a particular School

Table 3: Years of teaching in a school (questionnaire respondents)

Performance Status			Years of teaching at the School			
			0 - 4 Years	5 - 10 Years	11 - 15 Years	Total
High Performing	School	NK	5	3	0	8
		LP	6	3	0	9
Low Performing	School	MG	6	2	2	10
		FW	6	3	1	10

The table above shows that most of the respondents had taught in their respective schools for not more than five years. This was a similar picture in all the four sampled schools.

## 5.3 Teacher Practices

### Teacher Expectations of Pupils' Success

The data collected revealed that teachers' expectations of their pupils' ability to achieve higher performance was positive at NK and neutral at LP. However, these expectations at MG and FW were very negative. Below were some of the common responses to the question of whether or not pupils were capable of achieving the highest level of performance:

*We get our pupils from neighbouring basic schools, and this is where there is a problem. Most of them are unteachable [sic] because they don't understand English. In some of the basic schools they come from, they receive leakages...* (Teacher, FW Secondary School).

*We do not have prep here. Much as we would want them to achieve, there are these challenges. The majority of our pupils are renting in the surrounding villages. They stay on their own, and since we do not monitor them, it is difficult to know what they do out there...* (Headteacher, MG Secondary School).

*Most of these pupils are slow learners and are not fully baked wherever they come from [basic schools] ...* (Teacher, MG secondary School).

### Monitoring of Pupils' Progress

In addition, another notable difference between the two high performing schools and the two less performing ones lay in the teachers' actual implementation of the assessment policy. While almost all the teachers in all the schools acknowledged that they frequently assessed and provided feedback to their schools, focus groups with pupils, revealed contrary information at the two less performing schools. Below were some of the common responses:

*Homework is given to us maybe once in a month, and this only happens in Mathematics and English subjects...* (Pupil, MG Secondary School).

*Homework is no longer given to pupils.... Most teachers don't even know our names...* (Pupil, FW Secondary School).

### Professional Development Activities

From the interviews with head teachers and questionnaires with pupils, it became clear that another feature distinguishing teachers in the two categories of schools was their involvement in local professional development activities. The data from the less performing schools revealed that there were no existing professional development programmes at their schools. The head teacher at MG Secondary School acknowledged the importance of these programmes but was quick to mention that three-quarters of his teachers had Bachelors' Degrees, and hence were qualified enough.

Similarly, the head teacher at FW School argued that most of his teachers were already engaged in further studies, and that this covered up for any professional development programmes.

*I may say they [teachers] are qualified because we have a lot of them on fast-track [programme at UNZA]. Some are doing distance learning from other universities...* (Headteacher, FW Secondary School).

There was enough evidence of local professional development programmes in the high performing schools from both the teachers and head teachers. At LP School, for example, there was a policy that all teachers belong to at least a Subject Association in order to improve their professionalism. The data from NK School also revealed that there were regular teachers' professional workshops.

*We do have CPD [Continuing Professional Development] programmes though they are quite a challenge because of lack of classroom accommodation. In the recent past, we have held workshops and Subject-teachers' meetings either under a tree or displaced pupils from their classrooms... (Headteacher, NK Secondary School).*

#### **5.4 Factors threatening teacher effectiveness**

##### **Inadequate Infrastructure and teaching Materials**

The infrastructure challenge was mentioned in all the four schools as one major hindrance to teacher effectiveness. Most classrooms were overcrowded, making it difficult for teachers to attend to their students individually. Additionally, teachers did not have office accommodation to allow them to effectively plan their lessons. At LP Secondary School, for example, all the 26 teachers (the Head and Deputy Head inclusive) were sharing a single office, which however, could only accommodate about ten people. The situation was similar in all the other schools. Libraries and laboratories were equally non-existent in these schools.

Except in the two high performing schools, the problem of inadequate teaching materials was more pronounced at MG and FW (the low performing schools). The following were responses from the four head teachers:

*In terms of books and desks, we have no problem. We have enough stocks in the storeroom. We do not just have Grade eight textbooks, especially for the new curriculum... (Headteacher, LP Secondary School).*

*We have enough textbooks for high school but very few for the 'new' junior grades. We promise to be buying bit by bit. As for desks, we have enough- we even have a lot of them just packed in the storeroom... (Headteacher, NK Secondary School).*

*Pupil-textbook ratio is almost zero! Only teachers have textbooks. As for desks, normally three pupils sit on one desk... (Headteacher, FW Secondary School).*

*In terms of desks, we have no problem. But in terms of textbooks, this is where we have a challenge. We are critically hit in terms of pupils' textbooks (Headteacher, MG Secondary School).*

##### **Poor Conditions of Service**

In all the four schools, teachers complained of poor conditions of service in rural areas. Rife among them was the lack of proper accommodation both at home and at work. Most of them were forced to rent substandard structures in the communities.



*The small huts we occupy are very far from the school, and this is proving to be a challenge as we have to cover long distances to school every day... (Teacher, LP Secondary School).*

### **Teacher Absenteeism**

Teacher absenteeism was reported by pupils as a common phenomenon in the four schools. This practice was found to be potentially harmful to the pupils' desire to learn.

*If it is English, eeish! Our teacher is expired. You only see him twice in a year!... (Pupil, LP Secondary School).*

*When we went for a quiz, we were challenged by other schools. You can imagine [in] Grade Eleven Chemistry, we are still on Separation Techniques. Is that normal?... (Pupil, LP Secondary School).*

## **6. Discussion**

This study found that there were more teachers with diploma qualifications in the two high performing schools. On the other hand, one of the low performing schools had three-quarters of its teaching staff qualified up to degree level. This finding sharply conflicts with that of Kayungwa (2002) in which teachers with higher qualifications were perceived to be more effective than those with lower qualifications. It also means that Malambo's (2012) argument, that higher qualifications may not be necessary for effective teaching, is supported. In order to effectively teach, probably, teachers merely need to master their subject content, have the pedagogical skills as well as the motivation to teach. Being highly qualified alone is not important; teachers also need to love their job and execute it with passion (Lockheed & Longford, 1991).

The finding that a school with many highly qualified teachers had consistently produced poor examination results, should compel all the universities in Zambia to assess their training programmes and the calibre of graduates they are churning out. For example, how fully prepared are their graduates and how ready are they to take up a career in teaching? A recent study at the University of Zambia showed that most university students pursuing education programmes had a negative attitude towards the teaching profession (Serenje, 2012). Yet, these same discontented individuals end up entering the profession.

Furthermore, the appropriateness of the university teacher education programmes in preparing teachers is questionable. In his study, Subulwa (1993) found that the teaching diploma programme was more specifically tailored for classroom teaching than a teaching degree. This is because latter is broad in focus and could be marketable to fields outside teaching. This observation might be correct in explaining the differential performance of diploma and degree holders.

Another plausible explanation could be that, most likely, the degree holders may have been harbouring the frustration of not having found a non-teaching job and the reality of working in rural areas, where services 'befitting' their level of education were non-existent. The diploma holders on the other hand, may have found joy in teaching in secondary schools, where, according to the policy on education, they are not qualified to teach.

One other significant characteristic of 'effective' teachers observed in this study, was their involvement in Continuing Professional Development (CPD) activities. Both of the schools with high pupil achievement had regular professional development programmes for their

teachers. They regularly held professional workshops and encouraged their teachers to form and join Subject Associations. These activities however, were not reported in the low performing schools. CPD activities are very important for the improvement of teaching skills, as they keep teachers up to date with the latest developments in their fields (Forrest and Parkay, 2001). Moreover, the lack of such activities has been found to contribute to lower teacher performance (Banda, 2002; Mumba, 2007).

In addition, teacher expectations of pupils' success in the high performing schools were found to be positive. Teachers in these schools expressed satisfaction that their students were capable of reaching high levels of achievement. However, in the low performing schools, teachers expressed clear doubts about their pupils' ability to achieve. This finding is in conformity with the conclusions of Sammons *et al* (1995), Reynolds & Teddlie (2000) and Balbontín (2012) who found an association between low expectations and passive teaching behaviours and styles. This could explain why teachers in the low performing schools had, reportedly, stopped assessing their pupils regularly.

The major threats to teacher effectiveness identified in this study included inadequate infrastructure, few teaching and learning materials, poor conditions of service and teacher absenteeism. The availability of adequate infrastructure and resources is indispensable for the achievement of teacher and school effectiveness (Muchelemba, 2001; Reynolds *et al*, 2001). A study by Mwanza (2004) found that inadequate resources were behind teachers' failure to raise the achievement of pupils in their schools.

Teacher effectiveness was further, affected by the low levels of motivation and satisfaction. Without motivation, it is not possible for teachers to be effective. In fact, it is said that motivation can make an inexperienced worker do a better job than an experienced but demotivated expert (Bame, 1991). Most of the teachers expressed dissatisfaction with their working conditions.

Furthermore, teacher absenteeism is potentially capable of derailing any progress made towards improving student learning. This vice could be partly, explained by the common practice of teachers in rural areas to leave their work stations every month-end in order to collect salaries at neighbouring towns. Sadly, this was found to be a reality in all the four schools visited.

## **7. Conclusion**

This study has revealed a number of teacher characteristics and practices which could be used to understand why rural schools in the Western Province performed differently despite operating in a similar challenging context. The high performing schools were characterised by a large number of teachers with diploma qualifications, the presence of regular professional development activities for teachers, frequent pupil progress monitoring, and high expectations of pupils' success. Among the factors threatening teacher effectiveness were: inadequate infrastructure, poor conditions of service, insufficient learning materials and teacher absenteeism.

## **8. Recommendations**

In view of the findings, it is recommended that:

- (i) The government should consider recruiting teachers for the rural secondary schools, on the basis of not only qualifications, but also high motivation and commitment to work in rural areas. The current practice of teacher recruitment,

whereby applicants are posted to places they did not apply for, might explain the observed low performance of 'highly qualified' teachers in the rural schools. This system should be revisited if rural areas, in particular, are to be served by a cadre of highly motivated and committed staff. In other words, prospective teachers should be allowed to choose their preferred rural schools.

- (ii) School leaders should be encouraged to develop and sustain local professional development programmes for their teachers, as this is one key way to improving teacher effectiveness. In addition, they must ensure that teacher absenteeism in their schools is discouraged and curbed.
- (iii) Teachers should strive to have higher expectations of all their pupils' abilities. No pupil should be written-off for any reason. Clearly, lower teacher expectations do not support student learning.
- (iv) The government should urgently address the serious challenges of infrastructure and resources in rural day-secondary schools. This could be done through increased partnerships with the local communities.

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