



Original Research

Principals Leadership Practice, School Climate, and School Effectiveness at Dukem Town, Ethiopia

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Abstract

The principal's transformational leadership practice helps to build a positive school climate, which in turn promotes school effectiveness. To examine relationships between principals' leadership practice, school climate, and school effectiveness at Dukem Town, the two available middle-level public primary schools were examined using a correlation design. Using the availability sampling technique, all 65 teachers from both schools were included. Three standardised questionnaires, interviews, and document reviews were used to collect data. The questionnaires were the leadership practice inventory, the organisational climate description questionnaire (OCDQ-RM), and the school effectiveness index. Data were analysed using SPSS version 20, and the results showed that both schools' effectiveness was at a high level. A moderate level of leadership practice was in practice, indicating the existence of transformational leadership practice in primary schools. A low standardised score of principals' and teachers' openness characterises both schools, indicating that a closed school climate prevails in public primary schools. Further, a strong positive correlation existed between principals' leadership practices and school climate. A positive, weak correlation existed between school climate and school effectiveness. The result of multiple linear regression ($R^2 = .73$, $F(52, 11) = 13.25$; $p = .000$) indicated that the dimensions of leadership practice and school climate are effective predictors of school effectiveness, contributing 73.10 percent of the variation. Out of the 11 independent variables, four showed no significant contribution, whereas seven were the strongest predictors. The best predictor of school effectiveness was principals' challenging the process ($t(11) = 3.802$; $\beta = .967$; $p = .000$), followed by restrictive ($t = 2.486$; $\beta = .732$; $p = .016$) and modelling the way ($t(11) = 8.00$; $\beta = .694$; $p = .000$). To raise schools' effectiveness, train principals to frequently apply the five exemplary leadership practices; reduce the use of negative behaviours such as restrictiveness; and build a positive climate.

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INTRODUCTION

To ensure the provision of good-quality education to citizens at public primary schools, school improvement aimed at improving schools' effectiveness has become a desired and most valued change (Fullan,

2006; Hopkins, Harris, Stoll, & Mackay, 2011). Effective schools meet input standards, have a quality curriculum and well-qualified teachers, provide quality instruction, assess and monitor progress regularly, and have notable educational outcomes (Sammons,

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Hillman, & Mortimore, 1995). They set and accomplish goals effectively. Effective schools have committed teachers who trust each other and principals who are transformative, supportive, and encouraging (Creemers & Kyriakides, 2008; Leithwood, Jantzi, & Mascall, 1999).

To bring about school effectiveness in every school, school principals who act as change agents and build an open (and healthy) school climate are essential. Principals' professional leadership behaviours have large effects on organisational outcomes, including school climate and school effectiveness (Karadag, 2015). Transformational leadership, which raises the efforts and commitments of both leaders and followers beyond expectations, is one of the leadership models necessary for effective implementation of school reform (Anderson, 2020; Bass & Riggio, 2006; Leithwood, Jantzi, & Mascall, 1999). One transformational leadership model, named Kouzes and Posner's (1995) model, identified five leadership practices that transformational leaders employ to obtain extraordinary results. The five practices are: modelling the way; inspiring a shared vision; challenging the process; enabling others to act; and encouraging the heart (Kouzes & Posner, 1995, p. 13). According to Goewey (2012), Kouzes and Posner's framework is respected and practiced in education and business. It provides a roadmap for elementary principals as they work towards school effectiveness.

In addition to having exemplary leadership at schools to lead and manage school effectiveness, creating and sustaining a positive climate is also one of the necessary conditions. The school environment in which teachers work and students learn is very

Sci. Technol. Arts Res. J., Oct. - Dec. 2020, 9(4), 43-57 important and requires due emphasis (Kraft & Falken, 2020). To enhance the improvement of schools, the school principal's leadership roles, behaviour, and the establishment of a positive school environment are crucial.

School climate, which refers to teachers' collective perception of behaviour in schools (Hoy & Miskel, 2011; Tagiuri, 1968), describes both the behaviours of the teachers interacting with each other as well as teacher-principal interactions (Hoy, Tarter, & Kottkamp, 2012, p. 8). The school climate might be open or closed depending on the kind of interaction that exists among the principal, teachers, students, parents, and others. More importantly, teacher openness and principal openness determine the school's climate. The degree of openness of a principal is defined by the sum of his or her supportive, directive, and restrictive behaviours, whereas the degree of teachers' openness is defined by their collegial, intimate, and disengaged behaviours (Hoy, Tarter, & Kottkamp, 2012, p. 8). Open schools are flexible schools that learn and adapt, whereas closed schools are rigid and fail.

Several studies showed that educational leadership has large positive effects on organisational climate (Çoğaltay & Karadağ, 2016; Hoy & Miskel, 2011; Karadag, 2015). Similarly, several other studies documented the existence of a positive correlation between the principal's leadership practice and school effectiveness (Miskel, 1985; Hallinger & Heck, 1996; Hallinger & Leithwood, 1994; Yilmaz & Jafaova, 2019). Thus, the effectiveness of the school and how it is determined both by the principal's leadership practice and the school's climate is a topic that has greater significance (Gülseven & Gülenay, 2014; Goewey, 2012; Kraft & Falken, 2020).

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In this study, whether (or not) dimensions of the principal's leadership practice and school climate predict the scores of school effectiveness is determined.

Theoretical framework: Kouzes and Posner's (1995) transformational leadership model, Hoy and Sabo's (1998) organisational climate, and Hoy and Ferguson's (1985) school effectiveness index served as theoretical frameworks.

Leadership Practice: Kouzes and Posner's (1995) Model of Transformational Leadership The five exemplary leadership practices are said to be the highest forms of transformational leadership (Kouzes & Posner, 2012), and their description is presented under this section.

Model the way: it requires becoming a role model. Leaders employ "modelling the way" by clarifying and aligning values with actions (Kouzes & Posner, 2012).

Inspire a Shared Vision: envisioning the future, imagining possibilities, dreaming, and seeing an exciting and attractive future for one's organisation and communicating them to others (Kouzes & Posner, 2012).

Challenge the Process: Exemplary leaders search for every possible opportunity that helps them improve the product or service rendered by their organizations. They encourage change and improvement by celebrating wins (Kouzes & Posner, 2012).

Enable Others to Act: It is about strengthening others by developing their competencies through education, training, participation, and promotion. Here, followers are involved, listened to, respected, and given a great deal of freedom (Kouzes & Posner, 2012).

Encourage the Heart: Leaders express pride in the accomplishments of their teams.

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They recognise the personal contribution to organisational success publicly and celebrate victories (Kouzes & Posner, 2002).

The School Climate: The concept and meaning of school climate are derived from the term organisational climate (Halpin & Coft, 1963; Litwin & Stringer, 1968; Freiberg, 2005). It is the measure of teachers' perceptions and views of their schools' stable characteristics and work environment, which influence their motivation and behaviour (Poon & Ainuddin, 1990). School climate helps to illustrate the school, differentiate it from others, and influence members' behaviour (Subramaniam, 2009). School climate can be defined as the quality of a school that helps each teacher and student feel personal worth, dignity, and importance while simultaneously creating a healthy learning environment. Both formal and informal relationships, the personalities of participants, and school leaders determine the school climate (Hoy, Tarter, & Kottkamp, 2012).

Dimensions of School Climate:

According to Hoy, Tarter, and Kottkamp (2012), school climate has six dimensions, three of which can be categorised as principals, and the remaining three are teachers' behaviors. The three principal behaviours are supportive, directive, and restrictive. Correspondingly, the three school climates that are related to teachers' behaviour are: collegial, commitment, and disengaged.

School Effectiveness: The concept of school effectiveness has originated from the notion of "organisational effectiveness" (Mott, 1972; Parsons, 1960). Parsons (1960) suggested that social systems survive according to their ability to exercise four critical functions: adaptation, goal achievement, integration, and latency. To

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measure organisational effectiveness, based on Parson's notion, Mott (1972) developed an eight-item instrument that emphasises three ways through which organisations mobilise centres of power: productivity, adaptability, and flexibility. By the same token, in 1985, Hoy and Ferguson (1985) developed a school effectiveness model and an instrument that measures it based on Parson's view and Mott's work.

Their model is an integration of two models: the goal model and the systems model (Murphy, Weil, Hallinger, & Mitman, 1985). According to the goal model, schools are effective to the degree they set and accomplish their goals. A systems model conceptualises schools and their actors as having an organic nature: growing and surviving. Hoy and Ferguson's (1985) model of school effectiveness assumes that a given school is said to be productive based on the level of students' achievement on the standardised test. In sum, according to Hoy-Freiberg's model, effective schools are those whose faculties are well informed about reforms; the faculties accept and adjust to change willingly and quickly; they anticipate problems.

The main purpose of this study was to determine whether (and to what degree) relationships exist between principals' leadership practices, school climate, and school effectiveness at middle-level public primary schools in Dukem Town.

The study attempted to answer the following research questions:

1. To what extent do middle-level public primary school principals in the study area employ the five exemplary leadership practices?
2. Do the two public schools differ in employing the five exemplary leadership practices?

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3. To what extent are the school climates of the middle schools open or closed?
4. To what extent are the middle schools in the study area effective?
5. What relationships exist between the principal's leadership practices, school climate, and school effectiveness?

MATERIALS AND METHODS

Under this section, the research designs employed, participants involved, instruments used, methods of data collection, and data analysis applied were presented.

Research design: Co-relational design was employed in this study, as it "involves collecting data to determine whether, and to what degree, a relationship exists between two or more variables" (Gay, Mills, & Airasion, 2009, p. 196). The Pearson momentum correlation coefficient, whose result is expressed as a correlation coefficient, was used to determine the degree and direction of the relationship between the dimensions of principals' leadership practice, school climate, and school effectiveness (in pairs). After checking the messiness of data and violation of all the assumptions, further predictions were made to check whether the scores of school effectiveness (the defendant variable) were predicted from the scores of leadership practice and school climate (both independent variables). "Enter, the basic multiple linear regression procedure" was computed to determine which of 11 independent variables are most highly related to school effectiveness (Gay, Mills, Airason, 2012, p. 203).

Population, sampling techniques, and the sample size: The study is generalised to middle-level public schools in Dukem Town. The population of the study is both middle-

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level public schools in the town and their respective teachers and principals. *Dukem Kuter Aned* and *Dukem Kuter Hullet* middle-level public primary schools are the only two available junior public schools in the town. All teachers and principals of both schools were selected and included in the study based on availability sampling, with their consent.

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Participants and their characteristics: As shown in Table 1, 73 participants were involved in the study, of whom 33 were female (45.02 percent). A lower proportion of female participants show that males mainly dominate teaching, even at the primary school level.

Table1

Characteristics of respondents by schools

Teacher Participants from Middle level public primary school in Dukem Town								
Dukem No 1			Dukem No 2			Dukem Town		
Male	Female	Total	Male	Female	Total	Male	Female	Total
21	16	37	19	17	36	40	33	73

Source: own survey

Instruments

Three standardised questionnaires—the Leader Practice Inventory (LPI observer) developed by Kouzes and Posner (2013), the organisational climate descriptive questionnaire for middle-level schools (OCDQ-RM) developed by Hoy and Mikel (2011), and the School Effectiveness Index (SE-Index) developed by Hoy, Tarter, and Kottkamp (2012)—were used as major data collection instruments supplemented by interview and document review guides.

Internal consistency of the 5 sub-scales of LPI ranged from .70 to .91, with test-retest reliability of .93 and above. According to Hoy (2020), the psychometric test report for the OCDQ-RM showed high reliability scores for the scales: supportive (.96), directive (.88), restrictive (.89), collegial (.90), committed (.93), and disengaged (.87). The construct validity of the concept of organisational climate is supported (Hoy & Sabo, 1998; Hoy & Tarter, 1997). Besides, the predictive

validity of OCDQ-RM has been supported (Hoy & Sabo, 1998). The psychometric test for school effectiveness index showed high reliability, with alpha coefficients ranging from .87 to .89 (Hoy, Tarter, & Kottkamp, 2012). The validity of the SE Index was supported in a comprehensive study of high schools using multiple criteria of school effectiveness, including student achievement, the commitment of teachers, and assessments of experts (Hoy & Ferguson, 1985). The instruments were pilot-tested and improved.

A request for permission from the LPI observer was sent to leadershipchallenge.com, and permission was granted. Wayne Hoy has granted permission for all to use all his instruments, provided they are for academic purposes.

Methods of data collection

Principals were first approached, and the purpose of the study was discussed. With the permission of principals, the same procedure was repeated with teachers. As per the advice of Hoy and Mikel (2011), teachers were met after their staff meeting and addressed. The purpose of the study was

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explained, and their consent to be involved was demanded. Survey instruments were distributed to teachers at the meeting to fill out individually and return to the office of the vice principal. The returns from both schools were collected afterward, which was 100 percent. Two experienced teachers were interviewed. Data about the number of students, teachers, classrooms, and the socio-economic profile of the town were compiled from documents. Both quantitative and qualitative data were collected at the same time.

Methods of Data Analysis

Data was entered into SPSS-20, organised, and presented in the table. Both descriptive and inferential statistics were used to analyse the quantitative data. Mean, standard deviation, and percentage were used from descriptive statistics to describe the current status of constructs and their dimensions. In inferential statistics, independent t-tests, Pearson momentum correlation coefficients, and multiple linear regressions were used. T-test statistics were used to test differences between genders and schools. The Pearson momentum correlation coefficient was used to determine the degree of relationship. Multiple linear regressions were computed to determine the score of school effectiveness (a dependent variable) from the

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scores of dimensions of leadership practice and school climate (both independent variables). Qualitative data from interviews and document reviews were summarised, re-summarised, and matched with quantitative data.

Findings

Principals Leadership Practice in Dukem Public Middle Schools

Dukem town is located in Oromia regional state, Ethiopia, 37 km east of the capital, Addis Ababa, on the main route to Djibouti. It was established in the year 1914/15, when the Ethio-Djibouti railroad was constructed. The five exemplary leadership practices are believed to help principals and teachers perform extraordinary things (Kouzes & Posner, 2013). To determine the status of the principal's leadership practice in middle-level public schools in Dukem town, a leadership practice inventory (LPI Observer) was distributed to teachers (Kouzes & Posner, 2013). The LPI observer has 30 statements (six each for the five dimensions) to be rated on a Likert scale from 1 to 10, where a response of "1" means "rarely" and "10" means always." The maximum value for each dimension is 60; the mean value of 30 is interpreted as moderate (or average).

Table 2

Principals' Leadership Practices by schools

Dimensions of Exemplary Leadership Practice	Dukem No1 Public ML Primary School			Dukem No2 ML Public Primary Sc.			Dukem Town Public ML Primary Schools		
	N	M	SD	N	M	SD	N	M	SD
1. Modeling the way (6 items)	34	39.41	6.07	31	31.51	13.52	65	35.65	10.98
2. Challenging the Process (6 items)	34	41.85	7.49	31	30.70	9.80	65	36.54	10.27
3. Encouraging the heart (6 items)	34	40.29	12.48	31	33.09	12.13	65	36.86	12.75
4. Enabling others(6 items)	34	44.88	8.61	31	31.16	14.95	65	38.34	13.81
5. Inspiring Shared vision(6 items)	34	41.65	6.01	31	35.09	6.84	65	38.52	7.17
Average of the Five Exemplary Leadership Practices	34	40.28	6.72	31	32.31	10.31	65	37.18	9.75

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As shown in Table 2, the average mean scores of principals' leadership practice of the five dimensions' exemplary leadership behaviours at both middle-level public primary schools in Dukem were found to be moderate ($M = 37.18$; $SD = 9.75$; $N = 65$), which indicates that Kouzes and Posner's (1995) model of transformational leadership is practiced in schools. Concerning the use pattern of exemplary leadership practices, the mean value ranges from 35.65 (for modelling the way) to 38.52 (for inspiring shared vision), indicating that all five dimensions of the construct are practiced at a moderate level without much difference among them (see Table 2).

Do the public primary schools in the study area statistically significantly differ in employing the five exemplary leadership practices? To check whether there was a statistically significant

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difference between the leadership practices of both principals, the t-test was conducted at a 95% confidence interval (Gay, Mills, & Airasion, 2006). The null hypothesis tested was that there was no statistically significant difference between the means of the five exemplary leadership practices of principals of both public primary schools in Dukem Town. The result of the t-test analysis showed that there was a significant difference between the leadership practices of *Dukem Kuter Aned* school principal ($M = 40.28$; $SD = 6.72$) and the leadership practices of *Dukem Kuter Hulet* school principal ($M = 40.28$; $SD = 6.72$; $t(63) = 5.16$; $p = .000$), see Table 3. This indicates that the principal of Dukem Kuter Aned Primary School employed the five exemplary leadership practices relatively better than the other principal.

Table 3

The t-statistics of Five Exemplary leadership practice of Principals

Principals leadership practice	Dukem No. 1 Mean	Dukem No.2 mean	Mean Difference	t	df	Sig.
1. Modeling the way	39.41	31.51	7.90	6.35	63	.000
2. Challenging the Process	41.85	30.70	11.15	5.50	63	.000
3. Encouraging the heart	40.29	33.09	7.2	4.78	63	.000
4. Enabling others	44.88	31.16	13.72	3.78	63	.000
5. Inspiring Shared vision	41.65	35.09	6.56	2.97	63	.004
Average of the Five Exemplary Leadership Practices(30 items)	40.28	32.31	7.97	5.16	63	.000

Interviews with some teachers indicated that principal-teacher's relations at *Dukem Kuter Aned* School were smooth and collaborative. Having better relationships with faculty might have probably helped this principal persuade and inspire better. Concerning the profiles of both school principals, it was found that except for a slight difference in work experience (one of them served as a vice principal for three years), both principals have similar education and training backgrounds. Each of them has a bachelor's degree in natural science and more than ten years of teaching experience. And both

are summer students pursuing a postgraduate diploma in school leadership.

The school climate is understood as the perception of teachers about their work environment. It is the quality of a school expressed by how teachers feel about their relations to the principal, fellow staff members, students, and the school as an organisation (or a system). Teachers' collegial, committed, and disengaged behaviours determine their level of openness. Correspondingly, principals' supportive, directive, and restrictive behaviours determine principals' openness. To measure

Dukem public middle-level primary schools, the OCDQ-RM questionnaire was used. The questionnaire asked teachers to rate the descriptive

items on a four-point Likert scale, which ranges from "1" which means "rarely occurs" to "4", which means "very frequently occurs".

Table 4*Dukem Town Middle-Level Primary School Teachers Perception of their School Climate*

Description of School Climate	DukemNo1 ML Public Primary school			DukemNo2 ML public primary			Dukem Town ML public primary sch.		
	N	M	SD	N	M	SD	N	M	SD
Collegial Behavior (11 items)	34	28.65	3.82	31	31.29	6.22	65	29.80	5.22
Supportive Behavior (11 items)	34	28.06	3.88	31	23.58	6.17	65	26.03	5.55
Committed Behavior (9 items)	34	23.65	2.88	31	23.58	2.57	65	23.51	3.61
Disengaged Behavior (9 items)	34	19.91	3.61	31	23.40	4.39	65	21.58	3.61
Directive Behavior (6 items)	34	14.41	2.15	31	14.13	3.79	65	14.34	2.97
Restrictive Behavior (4 items)	34	10.12	1.72	31	11.23	3.49	65	10.62	2.74
School Climate	34	124.79	15.95	31	127.06	19.41	65	125.88	17.58

To clearly see the dominant school climate, converting the data into standardised scores and interpreting the results accordingly was necessary. Hoy's (2014) formula for converting school climate dimensions into the standardised score and the same writer's way of interpreting it were adopted. In the standardised score interpretations, the mean of the "average" school is 500.

Three school dimensions: teachers' disengaged behaviour (SdS for Dis = 638.69), principals' restrictive behaviour (SdS for Res = 599.34), and principals' directive behaviour (593.75) were found to be high. Teachers' collegial behaviour

(SdS for Col = 516.61) was found to be "slightly above average". Principals' supportive behaviour (SdS for Sup = 427.11) was found to be at a low level. Teachers' committed behaviour (SdS for Com = 381.39) was found to be very low. This shows that teachers are more disengaged. They show less commitment and collegial behaviour that is a little bit above average. Correspondingly, principals are highly restrictive, more directive, and less supportive.

Table 5*Standardized Score for Dimensions of School Climate and Openness*

Description of School Climate	DukemNo1 ML Public Primary school			DukemNo2 ML public primary			Dukem Town ML public primary sch.		
	N	M	SD	N	M	SD	N	M	SD
Collegial Behavior (11 items)	34	28.65	3.82	31	31.29	6.22	65	29.80	5.22
Supportive Behavior (11 items)	34	28.06	3.88	31	23.58	6.17	65	26.03	5.55
Committed Behavior (9 items)	34	23.65	2.88	31	23.58	2.57	65	23.51	3.61
Disengaged Behavior (9 items)	34	19.91	3.61	31	23.40	4.39	65	21.58	3.61
Directive Behavior (6 items)	34	14.41	2.15	31	14.13	3.79	65	14.34	2.97
Restrictive Behavior (4 items)	34	10.12	1.72	31	11.23	3.49	65	10.62	2.74
School Climate	34	124.79	15.95	31	127.06	19.41	65	125.88	17.58

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Further, the average standardised score of principals' openness for both schools was found to be 411.34, which is interpreted as "low". Correspondingly, the average standardised score of teachers' openness to schools was found to be 419.77, interpreted also as "low". A low level of teachers and principals' openness is a typical indicator that the school climates of both schools are highly closed.

School effectiveness is considered the degree to which a school is perceived to be effective (when it is imagined as productive,

Sci. Technol. Arts Res. J., Oct. - Dec. 2020, 9(4), 43-57 flexible, adaptable, efficient, and qualified) by its faculty. It is measured using the eight items of the school effective index (SE Index). Teachers were asked to describe the operation and performance of their school along a 6-point Likert scale from strongly disagree to strongly agree; the higher the score, the greater the effectiveness of the school. The highest value is six; the average is three (Hoy, Tarter, & Kottkamp, 2012).

Table 6

School Effectiveness by Schools

Dimensions of School Effectiveness	Dukem ML Public Primary SchNo.1			Dukem ML Public Primary Sc No. 2			Dukem Town Public ML Primary		
	N	M	SD	N	M	SD	N	M	SD
Efficiency(1 item)	34	5.15	.36	31	4.68	.91	65	4.95	.67
Flexibility(1item)	34	4.85	.36	31	4.48	1.03	65	4.68	.77
Quality Prod/Ser (1item)	34	4.24	1.42	31	4.87	1.20	65	4.54	.35
Adaptability(4 items)	34	4.51	.64	31	4.37	1.29	65	4.51	.90
Quantity Pro/Ser.(1item)	34	3.74	.75	31	5.13	.62	65	4.38	.98
index(8 items)	34	4.50	1.22	31	4.58	1.23	65	4.57	.78

As shown in Table 6, the average school effectiveness index value for both middle-level public primary schools was found to be high (M = 4.57; SD =.78). Both schools were found to be very efficient (M = 4.95; SD =.67). This shows that the values of resources are well understood and proper utilisation is encouraged. The wise use of resources is a typical characteristic of these schools. The two public primary schools (*Dukem Kuter Aned* and *Dukem Kuter Hulet*) in the town host a total of 5,999 students (2636 female, 43.94%) in two shifts. In one shift, Amharic-speaking students learn using Amharic as a language of instruction. In the other shift, those who attend instruction in *Afan Oromo* (the Oromo language) are served. This way, under one leadership, the same school facilities and teachers serve both communities. It is one example of wise use of a resource. As well, it is a good sign of respect for a child's right to learn primary education in their mother tongue. However, classroom overcrowding is a serious problem. The average student-to-section ratio for the *Afan Oromo* shift was found to be 112:1. Correspondingly, the student-to-section ratio for the Amharic shift was 82:1. The national standard for primary schools is

to have 50 students in a section. Both the *Afan Oromo* and Amharic shift classrooms are overcrowded. Relationships between the school principal's Exemplary Leadership Practices, the school climate, and school effectiveness

A positive school climate is an environment in which teachers, students, and other staff members trust each other and interact freely and in a friendly manner. For a principal who wishes to enhance schools' effectiveness, building a positive climate is one of the necessary conditions. There are many empirical pieces of evidence that school climate is largely determined by principals' and teachers' behaviours.

To investigate the relationship that exists among the dimensions of leadership practice, school climate, and school effectiveness, the Pearson correlation coefficient was computed at the alpha.05 significant level (Gay, Mills, & Airason, 2009). The null hypothesis claimed that there was no statistically significant relationship between any pairs of variables created by a combination of the dimensions of all three variables.

Table 7*Correlation coefficient values*

	Supportive Principal	Teacher Collegiality	Teacher commitment	Restrictive Principal	Directive Principal	Disengaged teachers	School Climate average	School Effectiveness
1 Mode the Way	.156	.208	.141	.111	.266	.276	.263**	.030
2. Inspire a shared vision	.128	.294**	.015	.349	.099	-.124	.041	.237
3. Encourage Heart	.177	-.174	-.134	.067	-.453	-.277**	.060	.006
4. Enabling others	.313*	.106	.173	.273	.043	.087	.216	.014
5. Challenging the Process	.446**	.165**	-.036	.322**	-.075	.084	.237	.066
Leadership Practice(average)	.428**	.174	.075	.326	.936	.017	.661**	.099
School Effectiveness	-.030	.183	.032	.219	.079	.318**	.286**	1

As shown in Table 7, a complex relationship exists between the dimensions of leadership practice, school climate, and school effectiveness. The average school climate was found to be positively related to average leadership practice ($r = .661^{**}$, $p = .000$). A weak association was found between the principal's leadership practice and school effectiveness ($r = .099$, $p = .000$). The correlation between school climate and school effectiveness ($r = .286^{**}$) was found to be a weak, positive relationship.

Scores of school effectiveness were predicted from the values of dimensions of leadership practice and school climate

In the presence of other variables, can the value of school effectiveness (a dependent variable) be predicted from the scores of the dimensions of exemplary leadership practice (an independent variable) and school climate (an independent variable)? To determine whether the values of

school effectiveness can be predicted from the scores of these 11 independent variables (the five exemplary leadership practices and the six school climate dimensions), a series of steps were followed: First, to determine whether the data qualified, all the assumptions were tested. The finding showed that all the underlying assumptions were met. Second, the null hypothesis was stated at a 95 percent confidence interval. It claimed that there is no significant prediction of scores of school effectiveness by dimensions of leadership practice and school climate. The third basic multiple linear regression procedure, named *Enter*, was conducted.

As shown in Table 8, the R square value of .731 shows that the model is an effective predictor. The independent variables contribute to the variation in school effectiveness by 73.10 percent at a 95 percent confidence interval. This means that 26.90 percent of the variation in school effectiveness is not explained by dimensions of leadership practice and school climate.

Table 8*Model Summary*

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate	Change R Square	Change Statistics			Sig. F Change	Durbin- Watson
						F	df1	df2		
1	.858 ^a	.737	.681	.43261	.737	13.246	11	52	.000	2.254

a. Predictors: (Constant), Commitment, Encourage Heart, Model way, Collegial, Enabling others, supportive, Directive, Ins Shared Vis, Restrictive, Challenging, Disengaged

b. Dependent Variable: AveSEI

The ANOVA table shows that there is a statistically significant difference in the contribution of the eleven independent

variables to school effectiveness (F (11) = 13.246; p = .000; see Table 9).

Table 9

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.268	11	2.479	13.246	.000 ^b
	Residual	9.732	52	.187		
	Total	37.000	63			

a. Dependent Variable: AveSEI
 b. Predictors: (Constant), Commitment, Encourage Heart, Model way, Collegial, Enabling others, supportive, Directive, Ins Shared Vis, Restrictive, Challenging, Disengaged

As shown in Table 10, seven variables were found to be the strongest predictors in the model. Four variables were found to have no significant contribution: encouragement of the heart ($p = .054$), collegiality ($p = .615$), commitment ($p = .664$), and disengagement ($p = .950$). The best predictor of school effectiveness is principals challenging the process ($t(11) = 3.802$; $beta = .967$; $p = .000$), followed by restrictive (Restrictive $t = 2.486$

$beta = .732$; $p = .016$) and modelling the way ($t(11) = 8.002$; $beta = .694$; $p = .000$).

Thus, the estimated regression equation is:

School Effectiveness = 4.553 + 967 *Challenging the process: .739* restrictive behaviours + .694* modelling the way: .524* directive behaviour + .496* inspired shared vision + .460* enabling others + 448* supportive behaviour + error

Table 10

Regression coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Coefficients			Correlations			Collinearity Statistics			
					B	Std. Error	Beta	95.0% Confidence Interval for B		Zero-order	Partial	Part	Tolerance	VIF
								Lower Bound	Upper Bound					
1 (Constant)	4.553	1.170	3.893	.000	2.206	6.899								
Challenging	.615	.162	.967	3.802	.000	.290	.939	-.041	.466	.270	.078	12.779		
Model way	.653	.082	.694	8.002	.000	.489	.817	.572	.743	.569	.673	1.485		
InsSharedVis	-.423	.163	-.496	-2.598	.012	-.749	-.096	-.326	-.339	-.185	.139	7.191		
EnablGothers	-.348	.101	-.460	-3.460	.001	-.549	-.146	-.176	-.433	-.246	.286	3.495		
EnCogeHeart	-.153	.078	-.340	-1.969	.054	-.309	.003	-.277	-.263	-.140	.170	5.897		
supportive	-.564	.220	-.448	-2.556	.014	-1.006	-.121	.098	-.334	-.182	.165	6.067		
Collegial	-.085	.168	-.103	-.507	.615	-.422	.252	.274	-.070	-.036	.123	8.113		
Restrictive	.383	.154	.739	2.486	.016	.074	.692	.219	.326	.177	.057	17.482		
Directive	-.641	.248	-.524	-2.584	.013	-1.139	-.143	.079	-.337	-.184	.123	8.132		
Disengaged	.012	.195	.021	.062	.950	-.380	.404	.318	.009	.004	.043	23.431		
Commitment	-.107	.245	-.088	-.436	.664	-.598	.385	.143	-.060	-.031	.124	8.085		

a. Dependent Variable: AveSEI

Discussion

Principals' professional leadership behaviours have large effects on organisational outcomes, including school climate and school

effectiveness (Karadag, 2015). School principals play important roles in the formation of the school climate, which is the overall quality of school life. Maniam and

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Pihie (2017) noted that school climate has a mediating effect on transformational leadership and school effectiveness. Effective schools set and accomplish goals, and their actors grow and survive (Scheerns, 2000).

The application of leadership practices, in particular, is supposed to be ideal to create a suitable work environment in primary schools, which in turn can influence school effectiveness (Kouzes & Posner, 1995). Recently, Hahn (2017) found that some characteristics and behaviours of a school principal impacted the school climate, including the principal's focus on building relationships, creating a collaborative environment, and communicating clearly. Kraft and Falken (2020) emphasised the need to extend the study on building a positive school climate as the context in which teaching and learning take place matters most. One of the organisational contexts that determine productivity and survival is climate. In schools, the organisational climate can be expressed by the feelings of teachers about the pattern of interaction among teachers, students, the principal, and others. School climate is believed to have a greater effect on the school's effectiveness than input and process variables (Gülşen & Gülenay, 2014; Goewey, 2012; Kraft & Falken, 2020).

Concerning relationships, transformational leadership was found to have a positive correlation with school climate (Allen, Girgisby, & Peters, 2015; Şentürk & Sağnak, 2012; Isci, Camak, and Karadag, 2015). Similarly, several other studies documented the existence of a positive correlation between the principal's leadership practice and school effectiveness (Miskel, 1985; Hallinger and Heck, 1996; Hallinger & Leithwood, 1994; Yilmaz & Jafaova, 2019).

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Conclusion and Recommendations

A moderate level of transformational leadership practices was found to be in practice in the primary schools of Dukem town, which shows that Kouzes and Posner's (1995) model is in practice in primary schools in Ethiopia. Besides, with similar demographic characteristics, the principal who is better at relating to teachers was found to be significantly better at employing leadership practices than the other. A friendly relationship served as a good medium. These are in agreement with Abu-Tineh, Khasawneh, and Al-Omari (2008) and Hahn (2017). Abu-Tineh, Khasawneh, and Al-Omari (2008) found that Kouzes and Posner's transformational leadership was practiced at a moderate level in Jordanian primary schools. Establishing and maintaining a smooth relationship serves as a better medium to employ transformational leadership (Hahn, 2017).

Middle-level public schools in Dukem Town are highly effective. The school effectiveness level of both schools was high, with very high performance in efficiency and flexibility. Hoy and Ferguson's (1985) model assumes that schools that are high in adaptability have teachers and administrators that are flexible and tolerant of innovation. Principals and teachers showed considerable respect for children's rights and used school resources wisely to serve two communities in a shift system.

However, low principals' and teachers' openness made the middle-level public primary school climate of Dukem Town a closed climate. Hoy, Tarter, and Kottkamp (2012) assumed that "closed climates have principals who are non-supportive, inflexible, hindering, and controlling and a faculty that is divisive, apathetic, intolerant, and

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disingenuous" (p. 34). Compared to the normative data provided in the New Jersey school sample for school climate, both primary schools were dominated by a closed climate. High-level principals restrictive and directive behaviours constrained openness. Since they are not professional leaders, these principals know little about the proper framework of school climate and do not know their level of performance on organisational climate, as they have not assessed themselves at all.

Concerning the relationship, a strong positive correlation was found to exist between the principal's leadership practice and school climate, which is in agreement with several studies (Allen, Girgisby, & Peters, 2015; Isci, Camak, & Karadag, 2015). A positive, weak correlation was noted to exist between school climate and school effectiveness, which conforms to the findings of several studies (Gülseven & Gülenay, 2014; Kraft & Falken, 2020). Further, in agreement with Sims (2005), the dimensions of leadership practice and school climate predicted a significant proportion of school effectiveness. From leadership practice, four dimensions: challenging the process, modelling the way, inspiring shared vision, and enabling others; and from the school climate, three dimensions: the principal's restrictive, directive, and supportive behaviours significantly predicted school effectiveness.

All the dimensions of leadership practice have positive effects on school effectiveness. However, the hostile and rigid school climate of the study area has restrained the total effect of leadership practice and school climate on school effectiveness. The implication is that unless these principals are trained on how to

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build a safe and conducive school climate and use all five exemplary leadership practice dimensions frequently and thoughtfully, all reform attempts, including school effectiveness, will be jeopardized. It is recommended that the municipal education office offer adequate training to principals on the application of the five leadership practice dimensions, the uses of school climate frameworks, and the necessity (and methods) of building a positive school climate. Further study is needed to investigate the mediating effect of school climate on transformational leadership and school effectiveness.

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