

## **Distributed leadership and learning achievement: The practices of principals in Eritrea's TVET schools**

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This study explores the link between principals' leadership practices and learning achievements from a distributed leadership perspective, using semi-structured interviews with TVET supervisors, middle leaders, and teachers. A detailed discussion on how school principals actually practised distributed leadership (DL) and how these practices affected learning achievement is reported. Moreover, a comparative analysis was made between schools with high and low learning achievers. We found that the main features of distributed leadership practices implemented by the principals were inspiration of a shared vision, enabling followers to lead, motivating followers, participative decision-making, capacity building, and authority sharing. Besides, the study discovered that schools with high learning achievement tended to have a better attainment of distributed leadership practices. This study contributes to understanding the nature of distributed leadership and its influence.

### **Introduction**

Distributed leadership (DL) within the era of accountability has become a prevalent and enthrusting topic among scholars, appearing to outshine other styles of leadership (Lumby, 2016). As a new phenomenon within the field of educational leadership and learning achievement, this type of leadership is at the forefront of educational reforms and globally has attracted the attention of many specialists, scholars and policy makers (Leithwood et al. 2009; Sibanda, 2018; Spillane, 2006). Within the past two decades, there has been a large increase in the research literature published on DL (Gron, 2016), but there is no universally accepted definition of the concept. In this study DL is viewed as a social process that enables leaders and followers to influence and interact with each other in their contextual situation to attain organisational goals (Spillane, 2006). Besides, there are few empirical studies that explore its connection with learning achievement (Tian, Risku & Collin 2016; Tsu, 2019). Although many have investigated the link between DL practice and learning achievement, a universally accepted framework of DL best practice has not emerged, nor has a consensus been reached on empirical measures of effectiveness (Diamond & Spillane, 2016).

A study by Harris and DeFleminis (2016) confirmed that increased adoption of DL practices influenced learning achievement. Botha (2016) also found that students' learning achievements were improved by DL practices wherein teachers are motivated, trusted and encouraged by their leaders. Sibanda (2018) claimed that trusting and involving followers in decision-making, and distributed patterns of leadership activities have positive influence in learning achievement. Day and Sammons (2014) affirmed that the inspiration of a clear vision is one of the key roles for effective principals in England. A study by Bush and Ng

(2019) highlighted that delegation, shared decision-making, empowering and enabling others, and sharing of workload is the distinctive pattern of DL in Malaysian schools. Effective leadership facilitates a situation that supports professional learning by building the capacity of followers, which can have a positive impact on learning achievement (Leithwood et al., 2004). Further, DL can be influential when the principal is willing to abandon sole power and give staff members opportunities to practice leadership in the school (Dampson, 2017; Sibanda, 2017).

Recognising the importance of Technical and Vocational Education Training (TVET), the government of the State of Eritrea has given top priority to the production of high-quality human capital, highly trained and capable of mastering and exploiting available technology for socio-economic development of the country (MOE, 2011). The Department of TVET is mandated to regulate training in the formal (intermediate) and non-formal (basic) levels in Eritrea. The intermediate level of TVET has been delivered by eight schools, though only modestly. These schools had already been practising DL through principal, pedagogy head, administrator, department heads, teachers, and parent and student representatives (MOE, 2009). TVET schools shared a limited range of authority to followers through school structures and ad-hoc committees. Moreover, the decision-making process is taking place through committees with full responsibility for coordination and alignment of leadership activities towards shared goals. Lumby (2016) noted these actions of leadership as procedures of DL. Research by Fessehatsion and Peng (2019) and MOE's (2009) *School Directors' Manual Guide* indicate that every school principal is responsible for leading the school by inspiring and winning attitudes of shared vision, encouraging followers, fostering capacity building and enabling followers to lead towards learners' success. In addition, the report of TVET further recognised that the administrators of the TVET schools are creating positive environments that are conducive to quality work and learning achievement (MOE, 2018).

Using qualitative methods, this study explores the nature of DL, and compares how the principals' practices differ in TVET schools in relation to learning achievement. This analysis compares three high learning achievement TVET schools with three low learning achievement schools. Therefore, the study examines DL practices such as level of inspiration of shared vision, enabling followers to lead, involving followers in decision-making processes, motivating followers, capacity building, and delegation in the schools.

## **Theoretical perspectives**

Many previous studies of DL have been based on descriptive or theoretical investigation (Mayrowetz et al., 2008). The normative perspective approach views DL as a treatment for school change and provides guidelines to investigate school leadership '*as it should be*'. Whereas, the descriptive approach considers leadership exists in schools in the form of activities that are dispersed throughout the school (Mayrowetz et al., 2008). According to Spillane (2006) leading a school with many in leadership roles and responsibilities refers to a leaders-plus perspective, whereas a practice-centred perspective implies that leadership requires interaction among leaders, followers and their situations. Spillane (2006) define

situations as the daily life experience and activities done by followers using different artefacts. Daily life experience could incorporate tasks like creating an inspiring shared vision, fostering capacity building and monitoring instruction. Artefacts refer to the tangible and intangible cultural principles of school such as instructional tools, meeting agendas, continuous assessment data, supervision checklists, school visions, shared goals and values. Myrowetz et al. (2008) argued that the school structure which dictates the division of work and efficiency has a direct influence on school processes and achievements. Formal leaders share and delegate authority through a school structure (Lumby, 2016). Indeed, flattening the structure is a tangible sign of DL practice in schools (Mayrowetz et al., 2008; Tian, 2016).

Nevertheless, teachers may be blocked from practising formal leadership roles due to routine activities, timetabling and workloads. According to Leithwood et al. (2007), plan-full alignment refers to leadership functions that are coordinated and deliberately practised so as to achieve the intended goals of the organisation. This pattern of DL occurs in a school when there are participatory decision-making processes based on discussion and reflection, clear job descriptions, trust and respect among the followers and leaders, and also when there is cooperation rather than competition among those who work together. The Leithwood et al. (2007) study showed that plan-full alignment is an effective pattern of DL that has a significant effect on student achievement.

A DL model provides an alternative way of investigating the complexities of how school principals and followers engage to improve learning achievement (Huggins et al., 2017). However, previous DL frameworks have not recommended an appropriate method for empirical scrutiny of the influence of DL on learning achievement (Tian et al., 2016). Thus, this study employed a combined framework of DL based on a normative perspective approach (e. g., Spillane, 2006; Leithwood et al., 2007) in a way that integrates inspiring shared vision, enabling followers to lead, motivating followers, capacity building, authority sharing, and participative decision making. Here a normative approach refers to research that has provided functional models and reasonable practices for practitioners (Gunter et al. 2013), that address the customary hierarchy mentality of school leadership in low-income countries, which can appear like the 'mutation of viruses' (Lumby, 2016). This framework helps to explore the link between principals' leadership practices and learning achievements from a distributed point of view.

Learning achievement refers to educational outcomes or to the extent to which goals are attained. Successful completion of a course, program or educational training assured by educational authorities can be the main educational goals to be achieved. Scholars have used learning achievement to measure institutional factors and the effectiveness of DL through a standardised test, a longitudinal test score, and course completion or dropout rates (Malechwanz & Hongde, 2018; Pascarella et al., 2005). In the present study, learning achievement refers to the academic performance (graduation rate) and dropout rate of TVET schools. Dropout rate is a commonly used indicator of school efficiency and learning achievement. According to a TVET report, dropout rates refer to the percentage of students who have dropped out at the end of a specific school year, out of the students enrolled in TVET at the given grade (TVET, 2019). Student dropout in the middle of

their studies occurs for many different reasons, including low academic performance, health problems, financial problems, pregnancy in the case of females, and Covid-19 restrictions. The dropout rate from TVET schools for a period of two years over five TVET cycles is presented in Appendix 3.

## Method

### Research focus and design

The current study attempts to clarify the link between principals' DL practices and learning achievements based on middle leaders (pedagogy heads, student affairs heads, and department heads), teachers, and supervisors' perspectives. The researchers explored discrepancies among actual DL practice and learning achievement in high and low learning achievement TVET schools in Eritrea. TVET in Eritrea is delivered at basic, intermediate and advanced levels. The basic level is a short-term training program extending from six months to one year. The beneficiaries of this program are mainly disadvantaged groups including women, out-school youth, disabled and former combatants so that they can succeed in finding work. The basic level training program is performed in collaboration with partners from various line Ministries, parastatal companies, private institutions, local NGOs, etc. At this level different technical training is offered, including woodwork, metalwork, masonry, building, electricity, auto-mechanics, tractor operation, driving and plumbing.

The intermediate and advanced levels of TVET accommodate regular students from Eritrea's 109 secondary schools. About 5% of secondary school students who complete 10th grade each year join a two-year intermediate level program. It aims to produce semi-skilled professionals in the fields of technical, agricultural, commercial and music, ready to meet the demands of the labour market. The official school age in this program is 15-18 years and English is the medium of instruction. Students who are enrolled in TVET public and private schools receive free training, and in the case of boarding schools, free accommodation. Currently there are eight TVET schools providing an intermediate level program, namely Asmara Music School, Asmara Technical School, Denden Commercial School, Don Bosco Technical School (private), Hagaz Agro-technical School (private), Halay Technical School, Mai-Habar Technical School, and Wina Technical School.

This study employed a qualitative research design using semi-structured interviews (Appendix 1) conducted in the 2019/2020 academic year. Follow up data was facilitated in 2021/2022 to trace the progress made. Due consideration was given to the nature of DL and its actual practices. Ethical guidelines were applied to safeguard the interests of the interviewees. A written consent form was obtained from each informant and their identities and school affiliations have been kept confidential. The local language, Tigrigna, was used in the study and interview durations were 65 to 85 minutes. The researchers took audio recordings and later transcribed and translated the interviews into English. Transcripts given to colleagues and interviewees for corrections and validation purposes. Insignificant responses were removed and relevant data was organised for analysis.

### **Sampling and data analysis**

The researchers selected interviewees from the central office of the Department of TVET and six intermediate schools in Eritrea. A purposive sampling was carried out to obtain data from 18 pedagogy heads, department heads, teachers and four TVET supervisors (Appendix 2). The criterion on tenure, working at least five years in TVET, was set to confirm the participants could deeply understand the leadership practices of their principal or school after having accessed many of the activities. TVET supervisors are from central office and they supervise and support all TVET schools in Eritrea. Also, the researchers selected various staff members from different departments to ensure the inclusion of opinions from different professional backgrounds. Although principals might be a good source of DL information for this study, due to time and budget constraints, we preferred other staff members and TVET supervisors to share their experiences or observations. Two sets of three schools were selected as high (school A, B and C) and low (school D, E and F) learning achievement TVET schools based on their academic performance. As Appendix 3 indicates, the three high learning achievers are non-boarding schools in urban locations, whilst the three low learning achievers are boarding schools located both in urban and semi-urban areas of the country (Appendix 3). The academic success and drop-out rate of the two groups with their demographic characteristics are presented in Appendix 3.

With the help of Microsoft *Word*, interviews were coded and analysed. The interview transcripts were analysed using individual case and cross-case analyses as recommended by Miles and Huberman (1994). Initially, each interview transcript was coded as an individual case in order to formulate patterns in the informants' responses. Then, the individual meaning of consistent patterns was given a code. In the second phase, a within-case analysis was extended by employing a cross-case analysis of all informants in one group of interviews. A cross-case analysis was employed as the third phase of analysis, and the two groups of informants were compared against each other. Finally, within-case and cross-case analyses were synthesised to produce general results. This helped the researchers to check and triangulate the validity of the data and to present the findings in an integrated way. Each participant was also given a copy of their transcribed interview to assure the accuracy of the research findings.

The 22 interviewees included 3 females and 19 males. Among them, all 4 TVET supervisors were male; 4 were MA degree holders, 12 first degree (BA or BSc) holders, 3 advanced diploma (AD), 3 diploma and one with certificate qualification. The total work experience of participants in MOE ranged from 4 to 50 years; a majority had first-degree educational qualification; two-thirds had current position work experience between one and ten years (Appendix 2). Thus, the researchers assumed that the participants were qualified for the present study considering their experiences and qualifications.

## Results

### Linking DL practice and learning achievement: Informants' perceptions

The interviews for this study addressed this research objective by asking whether principals have direct relationships with students or not, and how they influence students' learning achievement. Almost all participants reported TVET school principals had direct relationships with students through daily contact and provided them with guidance service. For example, teacher C3 mentioned:

Yes, of course he has a direct relationship. He meets them daily during the flag ceremony and gives them necessary information regarding their schooling or discipline or school agenda. He has monthly meetings with their class representatives; accordingly, he discusses with them concerning their progress and performance. He conducted and facilitated seminars and orientations to them with the school partners at least three times per semester.

Moreover, TVET supervisors and teachers reported that TVET school principals have direct contact with students in their class. This happens during class observation, monitoring, and even teaching. For instance, Teacher D1 said that:

For the conferences, orientation and meeting since I, the principal, the student affairs and administration head convene, their concerns and matters I would like to voice like issues of attendance are communicated.

Besides, principals in small schools used to teach in classes. Teacher A3 said that our principal is also a teacher, and sometimes he used to monitor classrooms during lessons. He started teaching from last year, and he is also occasionally substituting for teachers, which gives an opportunity to know the level and method of teaching of their assigned teachers. For the practical class, the teacher could provide make up for the missed classes, but on the regular classes, if the teacher did not show up, the principal uses the opportunity to monitor the class progress by teaching in the class. In such situations, he doesn't only teach them but also checks whether the lessons they covered meet the standard expected from the teacher and students. Then, he informs them about their deficiencies or conveys other information. Indeed, he finds this to be useful for student learning improvement and teacher commitment.

To investigate the direct relationship between principals and learning achievement, the researchers asked informants about their perception. All interviewees revealed that it has a positive influence on learning achievement. For instance, supervisors 1 and 4 have mentioned that principals have a direct relationship, including influencing students directly by involving student representatives. In the teacher interviews, some said that they enrolled as average students but became better after graduation. Confirming this, both supervisors said 'We agree, usually schools engage teachers who average graduates, and supported them to be better'. The supervisors regarded this as a common phenomenon across all the schools. Probably the only weakness is when schools have higher achievement expectations, and therefore may feel there is a relative defect. However, the

schools meet MOE expectations. Notably, the supervisors confirmed that they have a nearly zero rate of failures. Alike, the supervisors added that the schools are doing their best to ensure that the students are better trained, and they have found this to be the reality.

The researchers investigated the perceptions of informants using six attributes of DL practice as named in Table 1, which compares TVET schools that were high and low learning achievers. Although the responses from interviewees in schools of the low learning achievers are mostly negative, compared with responses from schools of high learning achievers, there are a few common responses regarding DL practices.

Table 1: Summary of participants' key responses

DL variables	Schools of high learning achievers	Schools of low learning achievers
Inspiring shared vision and common goals	<ul style="list-style-type: none"> <li>- Clear shared vision and common goals;</li> <li>- Accepted by followers;</li> <li>- Direction and inspiration set by principal, but followers involved.</li> </ul>	<ul style="list-style-type: none"> <li>- Unclear shared vision and common goals;</li> <li>- Not accepted by followers;</li> <li>- Direction and inspiration set by principal, and followers not involved.</li> </ul>
Enabling followers to lead	<ul style="list-style-type: none"> <li>- Mobilise others to lead;</li> <li>- Lead by being exemplary;</li> <li>- Encourage new ideas and innovation.</li> </ul>	<ul style="list-style-type: none"> <li>- Less encouragement given to others;</li> <li>- Not exemplary leader;</li> <li>- Less attention given to new ideas and innovation.</li> </ul>
Motivating followers	<ul style="list-style-type: none"> <li>- Have feeling of ownership;</li> <li>- Works with commitment and less supervision;</li> <li>- Giving less work load, continuous support, trust, respect and recognition.</li> </ul>	<ul style="list-style-type: none"> <li>- Less feeling of ownership;</li> <li>- Works with less commitment and tight supervision;</li> <li>- Giving high work load, less support, trust, respect and recognition.</li> </ul>
Participative decision-making	<ul style="list-style-type: none"> <li>- Formal and informal followers' participation;</li> <li>- Giving others opportunity to take decision;</li> <li>- Foster discussion for decisions.</li> </ul>	<ul style="list-style-type: none"> <li>- Less formal and informal followers' participation.</li> <li>- Giving less opportunity to followers to take decision.</li> <li>- No discussion for decisions.</li> </ul>
Capacity building	<ul style="list-style-type: none"> <li>- Develop others to be leaders.</li> <li>- Facilitate socialisation program.</li> <li>- Empower clinical supervision and teachers appraisal.</li> </ul>	<ul style="list-style-type: none"> <li>- There is insufficient support given to followers;</li> <li>- Less socialisation program;</li> <li>- No clinical supervision and teachers appraisal.</li> </ul>
Authority sharing	<ul style="list-style-type: none"> <li>- Authority shared and delegated;</li> <li>- Clear job description and Student and Teacher Associations;</li> <li>- No feeling of vulnerability.</li> </ul>	<ul style="list-style-type: none"> <li>- Limited authority shared and delegated to few followers;</li> <li>- No clear job description and no Student or Teacher Associations;</li> <li>- There is a feeling of vulnerability.</li> </ul>

### **Inspiring shared vision**

Participants were asked whether there are a shared vision and common goals in schools and how principals inspired followers towards the common goals. All the interviewees in the schools of high learning achievers reported that they have shared vision and common goals. However, staff members in the schools of low learning achievers stated there are no clear common goals that are accepted by the staff. The school principals in both types of schools set directions, but followers in low learning achievers are not involved. Staff members of the high learning achievers' schools and TVET supervisors reported that school principals inspired shared vision through meetings, giving orientation and artefacts. For instance, Supervisor 4 witnessed that:

... they disseminate the vision and common goals through a meeting, through interactions, or students and staff assembly, while on the job and through displaying artefacts in the offices and in staff rooms.

In contrast, schools of low learning achievers paid less attention to inspiration of a shared vision via orientation and artefacts (D1, D2, E3 and F2).

### **Enabling followers to lead**

Teachers of high learning achievers as well as TVET supervisors, mentioned that principals distribute leadership activities to followers through school structure and ad hoc committees. For example, Supervisor 4 said

I cannot say the principals have been able to independently run the schools, has acquired full ownership. However, they are maintaining their expectations. It is understood that a team effort is more successful than an individual. The unity of the schools is crucial, and leadership skills determined it. This may vary from principal to principal, but they do attempt to do it.

All supervisors mentioned that the principals of high learning achievers give directives to followers and followers too, have participated in several committees like exam committees, graduation, maintenance, discipline and other committees through which they lead the activities of the school. Moreover, in schools of high learning achievers, committees are formed through democratic election. These encourage the school community to contribute their part. As a result, the effectiveness of the schools and students' achievements tend to increase (Supervisors 1, 2, 3 and 4). All teachers of high learning achievers assured that their principals were capable of mobilising and encouraging followers' new ideas and innovation; they also have the ability to identify, resolve and direct problems. For instance, Teacher C1 regarded his principal as experienced, attaining a high quality towards attaining the main goals of the school and producing disciplined and academically strong students and teachers. He added that his principal is exceptional in understanding and motivating the young generations' comments, constructive ideas and innovations. Also, Teacher B3 stated 'although our principal was experienced and knowledgeable about his profession, he was only guiding us and everybody was participating in the program. However, this was not the case in low learning achievers. For



example, Teachers E1 and F3 said that in their school there was less opportunity and encouragement provided to others to lead and less attention was given to new ideas and innovation by staff members.

On the other hand, teachers from high learning achievers (Teachers B3 and C2) explained the capability of their principal for giving them ample space to work, and encouraging the professional careers and growth of their students and staff. Unlike the principals of low learning achievers, TVET supervisors reported that principals of high learning achievers distributed leadership activities. For example, Supervisor 1 said some principals distributed leadership activities to students' representatives, and built team spirit in high learning achievers. In such schools, student learning performance became more successful.

### **Motivating followers**

Data from the study revealed in high learning achiever schools motivating followers as a main attribute of DL practice. TVET supervisors and teachers of high learning achievers reported that principals motivate their followers through giving reduced workloads, continuous support (guidance and follow-ups), trust, respect and socialisation programs. For example:

Yes, the main thing that makes the responsible staff workers with a positive attitude towards their job was that the school has a principal who motivates his staff by giving less work load, guidance, follow-ups, trust and respect. Thus, they are always together and have a good time to discuss their day to day activities. (Teacher A1; similar from Teachers B1 and C10)

In this atmosphere, teachers feel that those with a negative view of the profession and school leadership and the opportunity to recover. Such a working atmosphere is place 'where the feeling of commitment and ownership is born' (Teacher C1). Others mentioned that staff did not need anybody to push them to work and did not need continuous supervision (Teachers A1, B1, F2 and C1).

Some principals used appraisal and recognition of followers' endeavours for motivation purposes. For instance, Supervisors 1 and 4 and teacher C1, said in high learning achiever schools, the principal organised different activities to build motivation and morale of staff and students. They motivated them through trust and respect by giving less workload and providing continuous support. As a consequence, staff felt a sense of ownership and moral obligation, working with commitment as they wanted to avoid negative influences on student and school achievements:

Some schools have teachers' appraisal, which is done by three bodies, school administration, supervision and student evaluation. After completion of the appraisal of the staff members, the schools give recognition certificates to good performing staff members at the end of the year or during graduation day or other different occasion. (Supervisor 1; similar from Supervisor 4 and teacher C1)

This kind of motivation made the staff members work with commitment. Compatibly, principals encouraged socialisation programs for staff and students in order to build harmony and cooperation among them. This also has a positive effect on students and school achievement (Supervisors 1 and 4; Teacher C1). In contrast to this view Supervisor 3 gave his observation:

Indeed, the reason for followers working with commitment and less supervision is getting motivation. We had even inquired into this. However, we found no positive enforcement in schools of low learning achievers.

Supervisor 3 mentioned that there was no reward system where teachers who excelled were acknowledged, either through written recommendations or any other means. Indeed, some principals gave more emphasis to enforcing punishment for those who failed to carry out their duties than to supporting excellent teachers. Supervisor 3 believed that the existing educational system doesn't encourage principals to do this. This is because credit is not given where it is due. In light of these points, Supervisor 3 suggested that there should be performance appraisal that rates teachers for salary increments, scholarship awards and promotions. Moreover, Supervisor 3 said 'although very few still do the appraisal, the majority of the teachers are left to their own moral conscience to either perform or not'.

All participants of high learning achievers testified that school members were highly committed and worked with less supervision because of the motivation provided by the school principal. Yet, supervisor 3 responded differently when the researchers asked a question: 'Do you think the principals of high learning achievers try to motivate followers by assigning less arduous tasks or with a good approach?' Supervisor 3 responded:

Actually, it is the opposite. Those who perform well are even burdened with extra work while the less committed are exempted. I think this could influence student achievement negatively.

### **Participative decision making**

Supervisors and teachers of high learning achiever TVET schools reported that principals involved followers in the decision-making processes of their schools. For example, Teachers A2 and C3 said making decisions without others' involvement may end in failures, 'Obviously, two heads are better than one'. Decision-making processes involve student representatives, teachers, department heads, administration staff and parents. In their schools, if teachers face any problems, they let them try to solve on their own. If they cannot, teachers get the support of their department. Moreover, in case where the problem seems difficult and beyond their level, administrative staff become involved and collectively try to solve the problem. However, in low learning achievers there is less formal and informal participation of followers in decision making processes and fewer opportunities for discussion in their schools.

Similarly, students in high learning achiever schools have representatives who handle small matters independently in a class. The school empowers the participation of student

representatives in solving problems, and students' petitions are always delivered to the administration office by the representatives. For this purpose, one school held a monthly meeting with representatives to discuss teachers' shortcomings in teaching and classroom atmosphere among students. Moreover, teacher A1 said, 'We let the representatives solve some problems independently, and the complicated ones are handled by the administration office', with similar from B3 and C2. Besides, in high learning achievers, the existence of formal organisational structures and ad hoc committees encourages teachers to participate actively in decision making. Indeed, decision-making processes in TVET schools oblige school principals to empower and participate with followers in decision making, including students' representatives. For instance, all supervisors expressed this or similar:

It's the obligation of a principal to participate followers including students' representatives in decision making. As such, school principals in high learning achievers don't make decisions alone.

In contrast, some low learning achiever schools' decisions are taken by a few individuals (Supervisor 1, 2, 3 and 4) and teachers' involvement in decision making is limited due to lack of awareness, encouragement to take responsibility, and followers lacking diligence (D3, E1 and F3).

### **Capacity building**

Capacity building is one attribute of DL which is practised by a school principal to assure the quality of training provided by his or her school. This study revealed that there were differences between high and low learning achievers in capacity building. Unlike teachers in low learning achiever schools, TVET supervisors and teachers of high learning achievers reported that school principals assured the quality of training for better learning achievement through capacity building. Teacher C1 said that capacity building among teachers in their school is secured through the monthly evaluation meeting with teachers, sharing experiences, school-based workshops (1 or 2 times a year), and guest lectures on related pedagogic issues. Their school also gave supportive programs, such as clinical supervision, daily guidance, and follow-ups in weekly lesson plan preparation. The weekly lesson plan has a positive outcome in identifying teachers' difficulties. This helps teachers who are failing to practice principles of pedagogy properly, and identifies teachers who attain commendable achievement, so as to create a supportive atmosphere.

Teachers A3, B2 and C1 mentioned that there are social affairs plans in their schools to organise entertainment activities which can help teachers to build solidarity with each other. Teacher C reported 'through time, the closeness of teachers would give birth to a feeling of ownership and accountability in their jobs'. Unlike the low learning achievers, schools of high learning achievers arrange picnics and field trips for their staff members and students. In addition, Teachers A2 and C2 mentioned that their schools also arranged supportive programs for students, such as inviting guest lecturers, sending them for practicums, field trips guided by teachers, and seminars with their stakeholders. Students

are usually expected to report back to the class when they have attended practicum courses and field trips (Teacher A2, C2).

### **Authority sharing**

The researchers sought to investigate if there are authority sharing and delegations to members, and explore how authority is shared in schools. The study found that the highest level of variation between the high and low learning achiever schools in the power-sharing dimension. All informants of high learning achievers mentioned authority is shared and delegated by the principal in their schools through school organograms (graphical representations of an organisation's structure), job description and ad hoc committees. These schools also share and delegate authority to parents and students' representatives. For example,

In our school, we have parents, teachers and students' association (PTSA) which deals with the school development plan and connect the school with the external partners and parents. They have full delegation and responsibility to support the school leadership. (Teacher A; similar from Teachers B and C).

The teachers added PTSA helps the school in motivating staff members, in handling student discipline, facilitating co-curricular activities of the school, and financing school programs. Student representatives also have authority and responsibilities in managing their class resource, discipline, attendance, and peer engagement as well as facilitating peer education (Teachers A, B and C). Whereas, in low learning achiever schools, limited authority is shared and delegated to few followers, and there is no clear job description and PTSA. Besides, there is feeling of vulnerability along their school principals (Teachers D3, E2 and F2).

### **Discussion and conclusion**

This study sought to investigate the link between principals' DL practices and learning achievement from the views of middle leaders, teachers, and supervisors. The data revealed that schools with high learning achievement tended to have a better attainment of these DL practices. The principals have a direct relationship with their students and they influence the students directly by involving students' representatives. It is noted that the schools normally enrolled average students and using DL practices support them to be successful in their schooling.

Previous studies have shown varying evidence about the link between DL practices and learning achievements. For instance, Rieckhoff & Larsen (2012) claimed that DL practice directly influenced learning achievement. Harris (2013) concluded that there was positive and significant link between DL practice and learning achievement, and it is clear that school principals have an integral role in expediting DL practice in the school. In contrast, some research has affirmed that there is no direct and significant impact or relationship between a school principal and learning achievement (e.g., Leithwood et al., 2004; Ross & Gray, 2006). A study by Heck and Hallinger (2010) examined the link between DL

practice and learning performance in 197 elementary schools in USA, finding that DL has only an indirect influence on learning achievement. Leithwood et al. (2009) conducted an investigation in secondary schools and argued that there is no direct link between DL practices and learning outcomes. Contrary to these claims, our current study showed a positive link between DL practices and learning achievements. Specifically, DL practices are more evident in high learning achiever than in low learning achiever schools. Similar to this result, Finnish vocational schools have shown that DL have positive impact on making the learning and teaching process smooth and to reduce the trends of students' dropouts (Jäppinen & Sarja, 2012). Moreover, Day et al. (2009) conducted a study in both elementary and secondary schools in England and found a positive relationship between DL practices and student achievement. A work by Sibanda (2017) revealed that schools in Soweto, South Africa, with low performance tended to have poor attainment of DL practices.

Based on the suggestion by Mendez-Morse (1992), the researchers expected that the critical factor for an effective school is the existence of a skilled principal who creates a sense of shared vision and clear purpose on improving the learning process. Likewise, the present study found that schools with high learning achievement had better practices of shared vision and common goals. This finding confirms Day and Sammons (2014) who stated that the inspiration of a clear vision and common goals is one of the key roles for effective principals in England. However, in schools with low learning achievement, there are no clear common goals that are accepted by the staff. Moreover, the study found in both types of schools, directions set by the school principals, but followers in low learning achievers are not involved. Principals of schools in the high learning achievers inspired shared vision through meetings, giving orientations (staff and student assemblies) and artefacts. Whereas, in low learning achievers' less attention is paid to inspiration of shared vision via orientation and artefacts.

The researchers found that principals in high learning achiever schools distributed leadership activities to followers through school structures and ad hoc committees. Through such structures, the principals give directives to followers and followers ensured their participation in school leadership (Beatty & Campbell-Evans, 2020). In high learning achievers a committee formed through democratically held elections encouraged the school community to contribute their part and empower their leadership skills. We believe such practices contributed to the effectiveness of the schools and their improvement of student achievement. This corroborates Harris (2013) and Tsakeni, Munje and Jita (2020), who asserted that high performing schools demonstrate better practice in creating different teams, restructuring and giving opportunities for others to lead. Previous literature argued that the real potential of DL practices by principals can flourish and be sustained through enabling staff members to interact, distributing leadership activities, and engaging teachers in leadership by forming and supporting different committees (Yilmaz & Beycioglu, 2017; Aravena, 2020). Similarly, this study discovered that principals of high learning achiever schools were capable of mobilising, encouraging followers' new ideas and innovation, and they have also the ability to identify, resolve and direct problems. Moreover, teachers of high learning achievers explained that their principals give them

ample space to work, and encouraged them to enhance their professional careers and growth of their students. This was not the case in low learning achiever schools.

Following Yılmaz and Beycioğlu (2017), the researchers expected motivation as a powerful tool of DL that enabled and encouraged followers to practice leadership activities in school and to improve learning achievement. We found that principals in high learning achievers encourage the school community by offering continuous support, fostering a conducive and flexible environment by giving less workload, convenient scheduling of activities and showing respect. As a result, their staff worked with high levels of commitment and less supervision. In contrast to low learning achiever schools, principals of high learning achievers used appraisal and recognition of followers' achievement as a means of motivation and organised different activities to sustain the motivation and morale of their followers. This finding confirms the claim of Tian et al. (2016) who revealed that the absence of a principal's support and encouragement correspondingly was one of the strongest demotivations that hindered DL practice and influence. The work by Tian (2016) added that teachers are not motivated by offering leadership title or financial incentives, rather they needed time, a principal's support and trust to demonstrate DL.

Our study found that principals in high learning achiever schools involved followers in decision-making. Making decisions without involvement of others may end in failures, because two heads are better than one (Teachers A2 and C3). In the high learning achievers, decision-making processes included students' representatives, teachers, department heads, administration staff and parents. However, in low learning achiever schools there was less formal and informal participation of followers in decision making and less opportunity for discussion. Unlike low learning achievers, students of high learning achievers had representatives who handled minor matters independently at classroom level. For this purpose, such schools held meetings with representatives to discuss teachers' deficiencies in teaching and classroom atmosphere. This finding supports Northouse (2016) who observed that high involvement of various followers in decision making is a characteristics of high performing schools, and a diverse group has different perspectives and knowledge that leads to enhanced problem-solving. Also, Fessehatsion and Peng (2019) noted that high involvement of teachers in decision making has a positive impact on achievement, through school principal empowerment, communicating shared vision and creating conducive environment to teachers.

This study revealed differences between high and low learning achievement schools in capacity building. High learning achievers reported that school principals assured the quality of training through capacity building and this is secured through activities such as monthly evaluation meetings with teachers, sharing experiences, school-based workshops, and short training and guest lectures on pedagogical issues. Their schools also give supportive programs, and weekly lesson plans had a positive outcome in identifying any teacher difficulties. This helped teachers to apply good pedagogical principles and identified teachers with commendable achievement in creating a supportive atmosphere. Unlike low learning achievement schools, high learning achiever schools arranged picnics and field trips for their staff and students, and arranged supportive programs for their

students like inviting guest lecturers, sending them for practicums, field trips, and seminars with their stakeholders. These observations support findings in previous studies that highlighted effective leadership that facilitates professional learning by building the capacity of followers to have positive impacts on learning achievement (Leithwood et al., 2004; Beswick & Clarke, 2018).

Finally, our study found the authority sharing dimension to be a main difference between high and low learning achievement schools. Principals in high learning achievers shared and delegated power through school organograms, job descriptions and ad hoc committees. These schools shared and delegated authority to student representatives to have responsibilities in managing their class resources, discipline, attendance, and peer engagement. This corroborated Day and Sammons (2014) and Cross et al. (2022) who stated that a principal who shared and delegated authority to trusted members whose support they need to get the job done can create an effective school. Whereas, in low learning achievers, limited authority is shared and delegated to few followers, and there is no clear job description and involvement of a PTSA. However, DL can be effective when the principal is willing to share authority and give staff opportunities to practice leadership in the school (Dampson et al., 2017; Sibanda, 2017).

We conclude that DL practices are more evident in high learning achievement than in low learning achievement schools. Principals' DL practices have a positive influence in high learning achievement Eritrean TVET schools. However, there are some limitations in our study. Firstly, it is based on interviews only with TVET supervisors, middle leaders and teachers. Principals' views could be included in follow up studies. Secondly, direct observation could collect valuable additional information. Thirdly, there are other variables which can positively influence learning achievement, such as teacher beliefs, organisational commitment and self-efficacy (Ross & Gray, 2006). Nevertheless, our qualitative method findings have important theoretical and practical implications, contributing to understanding the nature of DL and how principals' practices can positively influence learning achievement, which is especially relevant in low-income countries such as Eritrea.

This study also has practical implications for professionals, it being evident that no one can win alone, thus, principals should work alongside followers towards common goals through interaction and collaboration. Leadership activities should be fully distributed through identifying capable individuals, giving training and clear job descriptions, and enabling others to lead. In high learning achiever schools, followers working with commitment and less supervision are better motivated. Thus, school leaders should motivate their followers through offering continuous support, fostering a conducive and flexible environment with reduced workloads and convenient scheduling of activities, and offering respect and socialisation programs to followers. In order for DL practices to be more effective, school leaders should be willing to share authority and delegate to trusted members including student representatives.

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## **Appendix I: Interview questions**

### **Interview protocol for middle leaders and teachers**

1. Would you please introduce yourself; like your gender, educational qualification, position and work experience?
2. Does your school have a vision and common goals? How does your principal inspire and direct his/her followers towards the common goals of the school?
3. How does your principal distribute leadership activities in the school and enable others to lead, and how do you evaluate its effect on students' learning achievement?
4. Do you think that the staff members of this school have a feeling of ownership, work with commitment and less supervision? Why?
5. How does your principal assure the quality of training for better learning achievement? And in doing so, is there any learning improvement?
6. Does your principal give the opportunity to others to participate in the decision-making process? And how?
7. Do you think that your principal share and delegate power and authority to followers? And is there any abuse or misuse of power in your school?
8. Does your school principal have a direct relationship with his/her students? Based on your experience how do you evaluate its effect on students' learning achievement?

### **Interview protocol for TVET supervisors**

1. Would you please introduce yourself; like your gender, educational qualification, and work experience?
2. Do you think that TVET schools have a vision and common goals? How do principals inspire and direct followers towards the common goal of the school?
3. How do TVET school principals distribute leadership activities in their schools and enable others to lead, and how do you evaluate its effect on students' learning achievement?
4. Do you think that TVET school members have a feeling of ownership, works with commitment and less supervision? What could be the reason?
5. Based on your observation, how do TVET schools assure their quality of training for better learning achievement? And in doing so, is there any learning improvement?
6. Does TVET school principals' give an opportunity to others to participate in the decision-making process? And how?
7. How do principals share and delegate power to followers? And is there any abuse and misuse of power in the schools?
8. Do you think that TVET school principals have a direct relationship with their students? Based on your observation how do you evaluate its effect on students' learning achievement?

## Appendix 2: Demographic information

Name	Gender	Educational qualification.	Current position	Yrs in current position	Total years in MOE
Sup1	Male	BA	DTVET Supervisor	11	16
Sup2	Male	MA	DTVET Supervisor	1	50
Sup3	Male	MA	DTVET Supervisor	16	22
Sup4	Male	BA	DTVET Supervisor	10	50
AT1	Female	BA	Department Head	5	15
AT2	Male	Diploma	Teacher	14	14
AT3	Male	BSc	Academic Head	2	14
BT1	Male	Diploma	Department Head	5	9
BT2	Male	BSc	Academic Head	3	12
BT3	Female	BSc	Teacher	5	5
CT1	Male	BA	Student Affairs Head	9	14
CT2	Male	MA	Academic Head	7	35
CT3	Male	BA	Student Counsellor	4	12
DT1	Male	BSc	Academic Head	3	17
DT2	Female	Diploma	Teacher	19	19
DT3	Male	MA	Department Head	10	10
ET1	Male	BSc	Academic Head	12	25
ET2	Male	BA	Student Counsellor	7	7
ET3	Male	BSc	Teacher	7	7
FT1	Male	Certificate	Department Head	4	14
FT2	Male	BSc	Teacher	14	16
FT3	Male	Adv. Diploma	Academic Head	3	11

## Appendix 3: Academic success and profiles of sampled schools

Academic year	TVET School	Size	Type	Location	Success rate	Drop-out rate
2015-2016	School A	Medium	Non-boarding	Urban	95.3 %	4.7 %
	School B	Small	Non-boarding	Urban	98.2 %	1.8 %
	School C	Large	Non-boarding	Urban	92.7 %	7.3 %
	School D	Small	Boarding	Semi-urban	62.7 %	37.3 %
	School E	Medium	Boarding	Urban	90.3 %	9.6 %
	School F	Medium	Boarding	Semi-urban	96 %	4 %
2016-2017	School A	Medium	Non-boarding	Urban	96.3 %	3.7 %
	School B	Small	Non-boarding	Urban	97.7 %	2.3 %
	School C	Large	Non-boarding	Urban	96.7 %	3.3 %
	School D	Small	Boarding	Semi-urban	79.8 %	20.2 %
	School E	Medium	Boarding	Urban	94.1 %	5.9 %
	School F	Medium	Boarding	Semi-urban	89.4 %	10.6 %
2017-2018	School A	Medium	Non-boarding	Urban	98.1 %	1.9 %
	School B	Small	Non-boarding	Urban	100 %	0 %
	School C	Large	Non-boarding	Urban	95.5 %	4.5 %
	School D	Small	Boarding	Semi-urban	97.4 %	2.6 %
	School E	Medium	Boarding	Urban	86.2 %	13.8 %
	School F	Medium	Boarding	Semi-urban	92.4 %	7.6 %

2018-2019	School A	Medium	Non-boarding	Urban	91.6 %	8.4 %
	School B	Small	Non-boarding	Urban	100 %	0 %
	School C	Large	Non-boarding	Urban	96.7 %	3.3 %
	School D	Small	Boarding	Semi-urban	84.9 %	15.1 %
	School E	Medium	Boarding	Urban	97 %	3.0 %
	School F	Medium	Boarding	Semi-urban	89.5 %	10.5 %
2019-2020	School A	Medium	Non-boarding	Urban	95.7%	4.3%
	School B	Small	Non-boarding	Urban	100%	0%
	School C	Large	Non-boarding	Urban	94.5%	5.5%
	School D	Small	Boarding	Semi-urban	85.6%	14.4%
	School E	Medium	Boarding	Urban	93.1%	6.9%
	School F	Medium	Boarding	Semi-urban	75%	25.0 %

Source: TVET Report 2021. Large schools: more than 750 students; Medium schools: 350-750; Small schools: less than 350.

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