SECONDARY SCHOOL TEACHER OBSERVATION ON THEIR APPLICATION OF DISTRIBUTED LEADERSHIP STYLE

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Abstract

Distributed leadership in secondary education is a leadership style in which all educational personnel at school is involved in the improvement of teaching and learning. Its application corresponds to the contemporary requirements of education organization/management. However, in countries building democracy, such as Georgia, distributed leadership is not sufficiently applied and its application and impacts have not been studied. The paper presents the results of an experimental study at two schools – the experimental one, where teachers were trained to be involved in distributed leadership, and the control one, where no such training was organized. Then for one semester, the teachers in both schools did self-observation and were observed by three observers to see whether they differed in the application of distributed leadership. The results confirmed that a statistically significant improvement in distributed leadership application took place at the experimental school, while no such improvement occurred at the control school. A recommendation is given that for teachers insufficiently aware of distributed leadership style training concerning its clear definition, benefits, and challenges is necessary.

Keywords: *distributed leadership, quality education, teacher involvement in distributed leadership*

Introduction

Providing quality education to all is among 17 main goals named by UNESCO (2016) in the *Education 2030 Incheon Declaration and Framework for Action*: to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (p.7). The same document speaks about the need to "strengthen the efficiency and effectiveness of institutions, school leadership and governance through greater involvement of communities, including young people and parents, in the management of schools" (p.37). The document emphasized the role of teachers and the need to support them: "As teachers are a fundamental condition for guaranteeing quality education, teachers and educators should be empowered" (p. 54).

According to Day et al. (2020), there is a general consensus that distributed leadership "can have an especially positive influence on student and school outcomes" (p. 21). Therefore, it has to be more actively applied, and the efficiency of the application needs to be studied. There is some research on the impact of teacher training in distributed leadership on teacher empowerment (Bush, 2016; Grant, 2008; Rechsteiner et al., 2022), however, no such research has been conducted in Georgia. This makes the current study innovative and significant.

The research problem is related to the lack of understanding by teachers of the benefits of being engaged in distributed leadership and, consequently, resistance to having additional responsibilities.

The goal of the research was to find out whether the distributed leadership style is being applied in Georgian schools (and to what degree it is possible to speak about its implementation), and whether the application of distributed leadership enables to obtain an increase in teacher involvement in it.

Literature review

While in charismatic or heroic leadership of the first half of the 20th century was applied by the new school principal who carried out great changes in the school management and led the school to success, in distributed leadership, an interactive web of leaders is created at school and "leadership practice is viewed as a product of the interactions of school leaders, followers, and their situation" (Spillane, 2005, p. 144).

The traditional, autocratic (also called authoritarian), leadership style implied decisions taken by one person, leaving no chance for discussion and criticism (Mshelia & Emmanuel, 2022). More innovative and democratic distributed leadership involves both the principal and teachers collaborating to decide on and carry out the best practices at their school, rather than the principal serving as the only or main authority on these issues (Spillane, 2006). This is why nowadays, distributed leadership is often applied in schools.

TALIS 2018 (OECD, 2018) covered 42 countries. It revealed that school leadership is among the major issues included in the survey. In today's education, leadership functions and responsibilities are, to a certain extent, distributed within (school management teams and teachers) and outside (collaboration with other schools and local community) of schools. The variables that were taken into consideration were as follows: academic pressure, stakeholder involvement, involvement in school leadership, organizational innovativeness, school autonomy, teacher collaboration, effective professional development, and diversity of practices. Based on the analysis of TALIS 2018 findings dealing with leadership for learning, according to Veletić and Olsen (2021), countries can be classified according to the degree of teacher involvement in school leadership. Georgia was classified in the group of countries where leadership for learning practices are balanced and all indicators are moderately represented, while UK, USA, Australia, South Korea, Finland, Singapore, and some other countries were classified in the group where leadership for learning practices is strongly represented.

Liu et al. (2020) studied the relationships between school leadership and teacher outcomes, including supportive school culture and teacher collaboration. They found that distributed leadership is positively and indirectly associated with both teacher job satisfaction and self-efficacy.

Traver-Martí et al. (2023) showed that distributed leadership can help to develop participatory processes within the educational community. They emphasized the importance and influence of the management team's leadership style in collaborative practices. The study also underscored the need for families' and students' involvement in distributed leadership.

Larsson and Löwstedt (2023) stated that "distributed leadership focuses on what teachers and school leaders do together, but also on how the situation mediates that interaction" (p.138). They found that "infrastructure is to facilitate and guide teachers' sensemaking about their instructional practice" (p.138).

Liu and Watson (2023) studied how variations in the principal's leadership style, relationships within the management team, and teachers' engagement in leadership are related to teacher collaboration, job satisfaction, and school commitment. They revealed that teachers' desire to collaborate has a great impact on the efficiency of application of distributed leadership.

According to the Law of Georgia on General Education (2005), the school principals have to share their responsibilities for school quality and student outcomes with the administration ((involves, besides the principal, deputy principal(s) and an accountant)), Teacher Council (involves all teachers at the given school), the Board of Trustees ((involves representatives of teachers, parents, student self-government, Ministry of Education and Ministry of Defense, local self-government and benefactors' (if any)), self-government of pupils, and a disciplinary committee (article 35).

"Pupils, parents and teachers shall have the right to participate in school governance personally or through an elected representative" (article 11). "The basic goals of the state policy in the field of general education" deal with "developing pupils into free persons with national and universal human values" and developing "intellectual and physical skills of pupils, provide them with necessary knowledge" (article 3). However, judging by PISA 2022 (OECD, 2022) assessment results, the knowledge level of Georgian school graduates on the whole does not yet correspond to the

international standards (380 points compared to the world 470 points average). One of the ways to improve the situation is the full-fledged implementation of distributed knowledge.

Methods

The research method applied was quantitative: experiment with experimental (treatment) and control (no-treatment) schools. After the treatment period, both groups were observed to see to what degree (if at all) they applied distributed leadership.

Two public schools in Tbilisi, Georgia, were at random selected for participation in the experiment (on condition that their administration permitted the researcher to conduct the study). One public school was chosen at random as the experimental school (22 teachers), while the other was the control school (also 22 teachers). The participant teachers were volunteers.

In the experimental school, a series of trainings on distributed leadership was conducted during two months, to ensure their awareness about the leadership style and motivate them to be more actively involved in it. The teachers in both schools were observed by three experts (the school principal, the researcher, and a specialist in educational leadership), and also they did self-observations. An assessment rubric was developed for the observation. The results of the observations and self-observations had to reveal whether there would be any changes in teacher involvement in distributed leadership and whether it would have a positive impact on teacher empowerment.

Sampling

The participant teachers were volunteers from those schools. All teachers at both schools were females. In Table 1 see the demographic data of the participants.

Table 1. The demographic data of the participants

		Experimental school	Control school
Teaching experience	Inexperienced (0-3 years)	1 (4.5%)	5 (22.7%)
	Relatively experienced (4-9 years)	2 (9.1%)	5 (22.7%)
	Experienced (10 or more years)	19 (86.4%)	12 (54.5%)
Academic degree	Bachelor	3 (13.6%), 2 of them Bachelor + 60-credit teacher training program	5 (22.7%), 2 of them Bachelor + 60-credit teacher training program

		Pre-experimental results		Post-experimental results	
	Master's	15 (68.2%)		16 (72.7%)	
	PhD	4 (18.2%)		1 (4.5%)	
Level taught	Primary	10 (45.5%)		5 (22.7%)	
	Secondary	12 (54.5%)		17 (77.3%)	
Subjects taught		Combined primary (7), Georgian and Literature (2), Math (1), Physics (1), Chemistry (1), History (1), Foreign Languages (3), Biology (1), Geography (1), Civic Education (1), Art (1), Music (1), Sport (1)		Combined primary (5), Georgian and Literature (2), Math (2), Physics (1), Chemistry (1), History (1), Foreign Languages (4), Biology (1), Geography (1), Civic Education (1), Art (1), Music (1), Sport (1)	

Teachers at both schools taught the same subjects, in a little bit various proportions. Their teaching experience and qualification levels differed, however, what is important, they represented various sub-groups. This makes the two groups (teachers from the two schools) comparable.

Results

Teacher involvement in distributional leadership was assessed by three observers – the principal, the researcher, and an expert in the field. Then the mean result was calculated. An observation rubric was developed. The validity of the rubric was assessed by three experts in the field. All items in the rubric were assessed on a 3-point scale: 0 – never, 1 – sometimes, 2 – regularly. The observation occurred on a weekly basis, however, the results were assessed at the end of the post-training semester.

The observation results are presented in Tables 2 and 3.

Table 2. Observation rubric results (experimental school)

#		Pre-experimental results		Post-experimental results	
		Mean	SD	Mean	SD
1	Initiates events alone	1.67	.48	1.77	.81
2	Initiates events together with colleagues	1.67	.48	1.91	.75

#		Pre (M)	(SD)	Post (M)	(SD)
3	Initiates innovations alone	1.00	.20	1.32	.48
4	Initiates innovation with colleagues	1.33	.58	1.50	.67
5	Attends school meetings	1.33	.58	1.86att	.64
6	Is involved in discussion during the school meetings	1.67	.48	1.77	.61
7	Is involved in the planning process at school	1.00	.12	1.45	.67
8	Suggests problem decisions	1.00	.12	1.45	.67
9	Develops his/her professional skills	1.67	.48	1.82	.59
10	Involves colleagues in professional skills development	1.67	.48	1.82	.59
11	Participates in projects	1.00	0.05	1.14	.35
12	Provides emotional support to colleagues	1.67	.48	1.82	.59
13	Helps novice teachers	1.33	.58	1.45	.51

The results, initially between 1 and 1.67, revealed a reasonably positive trend after the training (between 1.14 and 1.91). All items got a reasonable improvement by 0.10-0.53. Maximum improvement was in attending school meetings.

Table 3. Observation rubric results (control school)

#		Pre-experimental results	Post-experimental results

		Mean	SD	Mean	SD
1	Initiates events alone	1	0.12	1.09	.29
2	Initiates events together with colleagues	1.67	.48	1.67	.48
3	Initiates innovations alone	1	0.20	1	0.20
4	Initiates innovation with colleagues	1.33	.58	1.09	.29
5	Attends school meetings	1.95	.65	1.27	.46
6	Is involved in discussion during the school meetings	1.67	.48	1.67	.48
7	Is involved in the planning process at school	1.00	.12	1.00	.12
8	Suggests problem decisions	1.00	.12	1.00	.12
9	Develops his/her professional skills	1.77	.61	1.50	.51
10	Involves colleagues in professional skills development	1.67	.48	1.50	.51
11	Participates in projects	1.00	0.05	1.00	0.05
12	Provides emotional support to colleagues	1.77	.61	1.77	.61
13	Helps novice teachers	1.33	.58	1.23	.43

It is impossible to speak about the improvement of the situation, the results rather fluctuate, some of them increase (item #1), sometimes remain the same (items #2, 3, 6, 7, 8, 11, 12), or sometimes decrease (items 4, 5, 9, 10).

To see whether the situation concerning the changes in the experimental school compared to the control school can be viewed as statistically significant, a T-test was conducted (see Tables 4.a-4.c).

Table 4.a. Paired-samples statistics (experimental and control schools, pre-experimental)

	Mean	#	SD	St. error mean
Variable 1 (exp.)	1.39	13	.30	.08
Variable 2 (cont.)	1.40	13	.37	.10

The mean results from all items together almost do not differ between the experimental (1.39) and the control (1.40) school results at the pre-experimental stage. The standard deviation is within the norm (<0.5).

4.b. Paired-samples correlations (experimental and control schools, pre-experimental)

	#	Correlation	Sig.
Var. 1 & Var. 2	13	.70	.01

The correlation between the experimental and control school results is .70, which is an average correlation. The significance =0.01 reveals that p<00.5, so the obtained result is statistically significant.

Table 4.c. Paired-samples test (experimental and control schools, pre-experimental)

	Paired differences					t	df	Sig 92-tailed)
	Mean	SD	St. error mean	95% confidence interval of the difference				
				Lower	Upper			
Var. 1 & Var.2	-.01	.27	.07	-.17	-.15	-.16	12	.88

At 95% confidence normally applied for education research, the significance equals .88>.05, which reveals that the difference between experimental and control school results at the pre-experimental stage is not statistically significant. Consequently, before the experiment, the groups were comparable from the point of view of their involvement in distributed leadership.

Table 5.a-5.c demonstrates the T-test results of teacher involvement in school leadership at the post-experimental stage.

Table 5.a. Paired-samples statistics (experimental and control schools, post-experimental)

	Mean	#	SD	St. error mean
Variable 1 (exp.)	1.56	13	.30	.08
Variable 2 (cont.)	1.29	13	.30	.08

The mean post-experimental results from all items together are higher for the experimental (1.59) than for the control (1.29) school. The standard deviation is within the norm (<0.5).

Table 5.b. Paired-samples correlations (experimental and control schools, post-experimental)

	#	Correlation	Sig.
Var. 1 & Var. 2	13	.80	.001

The correlation between the pre-training and post-training results is .80, which is an average correlation. The significance =.001 reveals that p<.0.5, so the obtained difference between the two school results is statistically significant.

Table 5.c. Paired-samples test (experimental and control schools, post-experimental)

	Paired differences					t	df	Sig 92-tailed)
				95% confidence interval of the difference				
	Mean	SD	St. error mean	Lower	Upper	t	df	Sig 92-tailed)
Var. 1 & Var.2	.27	.19	.05.15	.16	.38	5.21	12	.00

At 95% confidence normally applied for education research, the significance equals .00<.05, which reveals that the difference between the experimental and control school results at the post-experimental stage is statistically significant. The degree of the experimental school teachers' involvement in distributed leadership has increased compared to the control school teachers.

Teachers at both schools also conducted self-observations with the application of the same rubric (formatted in 'I' style). Tables 6 and 7 present teacher self-observation results.

Table 6. Self-observation rubric results (experimental school)

#		Pre-experimental results		Post-experimental results	
		Mean	SD	Mean	SD
1	I initiate events alone	1.18	.39	1.32	.57
2	I initiate events together with colleagues	1.45	.51	1.77	.61
3	I initiate innovations alone	1.14	.35	1.27	.46
4	I initiate innovations with colleagues	1.36	.49	1.50	.60
5	I attend school meetings	1.73	.46	1.91	.29
6	I am involved in discussion during the school meetings	1.50	.51	1.64	.49
7	I am involved in the planning process at school	1.23	.43	1.41	.50
8	I suggest problem decisions	1.18	.39	1.32	.48
9	I develop my professional skills	1.59	.50	1.73	.46

10	I involve colleagues in professional skills development	1.36	.49	1.50	.51
11	I participate in projects	1.09	.29	1.27	.46
12	I provide emotional support to colleagues	1.64	.49	1.82	.39
13	I help novice teachers	1.23	.43	1.45	.51

The initial results between 1.14 and 1.73 revealed a reasonably positive trend after the training (became between 1.27 and 1.91). All items got a reasonable improvement by 0.13-0.32. Teachers' self-evaluations are slightly higher than their evaluations by the observers.

Table 7. Observation rubric results (control school)

#		Pre-experimental results		Post-experimental results	
		Mean	SD	Mean	SD
1	I initiate events alone	1.14	0.35	1.14	.35
2	I initiate events together with colleagues	1.23	.43	1.27	.46
3	I initiate innovations alone	1.05	.21	1.05	.21
4	I initiate innovations with colleagues	1.18	.39	1.14	.35
5	I attend school meetings	1.45	.51	1.45	.51
6	I am involved in discussion during the school meetings	1.27	.46	1.23	.43

7	I am involved in the planning process at school	1.14	.35	1.14	.35
8	I suggest problem decisions	1.09	.29	1.14	.35
9	I develop my professional skills	1.64	.49	1.68	.48
10	I involve colleagues in professional skills development	1.50	.51	1.50	.51
11	I participate in projects	1.18	.39	1.18	.39
12	I provide emotional support to colleagues	1.50	.51	1.50	.51
13	I help novice teachers	1.32	.48	1.36	.49

It is impossible to speak about the improvement of the situation, the results rather fluctuate, some of them increase (item # 2, 9, 13), sometimes remain the same (items #1, 3, 5, 7, 10, 11, 12), or sometimes decrease (items 4, 6, 8, 10). Again, teachers' self-observation yielded a little higher results than their observation by the school principal, the researcher, and the expert in the field.

To see whether the situation in the changes in the experimental school compared to the control school can be viewed as statistically significant, a T-test was conducted (see Table 9).

Table 8.a. Paired-samples statistics (experimental and control schools, pre-experimental)

	Mean	#	SD	St. error mean
Variable 1 (exp.)	1.36	13	.21	.06
Variable 2 (cont.)	1.28	13	.18	.05

The mean results from all items together do not differ much between the experimental (1.36) and the control (1.28) school results at the pre-experimental stage. The standard deviation is within the norm (<0.5).

8.b. Paired-samples correlations (control school)

	#	Correlation	Sig.
Var. 1 & Var. 2	13	.77	.002

The correlation between the pre-training and post-training results is .77, which is average. The significance =0.00 reveals that p<00.5, so the obtained result is statistically significant.

Table 8.c. Paired-samples test

	Paired differences					t	df	Sig 92-tailed)
	Mean	SD	St. error mean	95% confidence interval of the difference				
				Lower	Upper			
Var. 1 & Var.2	.08	.14	.04	-.01	.16	2.03	12	.07

At 95% confidence normally applied for education research, the significance equals .07>.05, which reveals that the difference between experimental and control school results at the pre-experimental stage is statistically not significant.

Table 9.a-9c demonstrates the T-test results of teacher involvement in school leadership at the post-experimental stage.

Table 9.a. Paired-samples statistics (experimental and control schools, post-experimental)

	Mean	#	SD	St. error mean
Variable 1 (exp.)	1.53	13	.22	.05
Variable 2 (cont.)	1.29	13	.19	.05

The mean results from all items together are higher for the experimental (1.59) than for the control (1.29) school at the post-experimental stage. The standard deviation is within the norm (<0.5).

Table 9.b. Paired-samples correlations (control school)

	#	Correlation	Sig.

Var. 1 & Var. 2	13	.70	.00

The correlation between the pre-training and post-training results is .80, which is an average correlation. The significance =.00 reveals that p<.0.5, so the obtained difference between the two school results is statistically significant.

Table 9.c. Paired-samples test

	Paired differences					t	df	Sig 92-tailed)
				95% confidence interval of the difference				
	Mean	SD	St. error mean	Lower	Upper	t	df	Sig 92-tailed)
Var. 1 & Var.2	.24	.16	.04	.14	.34	5.38	12	.00

At 95% confidence, normally applied for education research, the significance equals .00<.05, which reveals that the difference between the experimental and control school results at the post-experimental stage is statistically significant.

Limitations

The limitations of the study deal with its scale – only 42 teachers from two schools in Georgia. More teachers from more schools can be involved in further studies, and international comparison would be beneficial. However, the study looks at the results from two points of view (experts' observation and teachers' self-observation), which makes the obtained results more trustworthy. Besides, the study is replicable (contains the questionnaires assessed for reliability and validity, as well as training materials), so in the future, it may yield more generalizable results. Therefore, in the future larger-scale research is desirable to make the obtained data more trustworthy.

Conclusions and recommendations

The study has confirmed that, without purposeful training and further observed application of the acquired knowledge and skills (to ensure that the training was efficient), it is difficult to engage teachers in distributed leadership.

The mean results of the pre-experimental observation by the experts revealed that in both schools the teachers 'sometimes' demonstrated several behaviors characteristic of distributed leadership (initiate innovations alone, suggest problem decisions, are involved in the planning process at school, and participate in projects in both schools and additionally initiate events alone in the control school), while other characteristic behaviors were more often applied. Therefore, distributed leadership features, similarly to Veletić and Olsen (2021) research, can be characterized as 'moderately represented'.

The mean results per item of the pre-experimental teacher self-observation were higher than those of experts (all of them were above 1 – 'sometimes'), however, on the whole they were very similar to

the experts' assessments. Anyway, according to teachers' self-observation, their involvement in distributed leadership still can be characterized as 'moderately represented'.

According to experts' observations, the degree of the experimental school teachers' involvement in distributed leadership (M_1=1.39$\rightarrow$ M_2=1.56) has increased compared to the control school teachers (M_1=1.28 $\rightarrow$ M_2=1.29). As for the teachers' self-observation results, the degree of the experimental school teachers' involvement in distributed leadership (M_1=1.36$\rightarrow$ M_2=1.53) has also increased compared to the control school teachers (M_1=1.28 $\rightarrow$ M_2=1.29).

Therefore, to involve teachers more actively in distributed leadership, it is necessary to conduct trainings that will explain to them why this leadership style is beneficial for school, its students and teachers.

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