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Correlation of Leadership with Professional Characteristics of Principals in Serbian Schools

Abstract

The aim of this research is to connect leadership and pedagogical characteristics of school principals in Serbia. Techniques of interviewing and scaling, instruments in the form of questionnaire and attitude scale have been applied in this paper. Research sample included 75 principals and deputy principals. Data obtained are processed in statistical SPSS package (factor scores on extracted Promax dimensions, Pearson's correlation and multiple regression analysis) and point to a statistically significant relationship between leadership and pedagogical characteristics of respondents[1].

Keywords: *education, leadership characteristics, principals, pedagogical competences*

1. Introduction

Educational institutions today function in terms of strengthening schools' autonomy and assuming the care for the entire educational and pedagogical process, for all the students who participate in that process, their results, and school existence in strong requirements of high-quality and optimum work in the context of constant changes. In terms of increased decentralization of the school system,

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the power of decision-making is delegated to school principals, together with responsibility, which includes professional action and possession of a wide set of different competencies – pedagogical, as well as organizational and managerial. More and more studies indicate that the quality of school management determines the quality of school result – learning (Bamburg and Andrews, 1990; Töremen and Şanli, 2011).

The concept of leadership does not imply uniformity, recipe, but the skill of leading and helping those who learn to use and develop their own potentials, motives and emotions in new values creation, in their attitude towards changes, creation of preconditions for reaching maximum results in personal and environmental development. Contemporary and innovative school prefers such an organizational culture and concept of (self)development and (self)education. This new concept of school leadership is especially challenging for the education in Serbia as a developing country, currently in the process of reforming and transforming education, democratization and decentralization.

From this emerges that pedagogical orientation is compatible with leadership, and that they are interwined. Is it like this in practice, with school principals, where, according to the job description, organization and leadership compentencies are foregrounded? This study aims to solve this particular problem – to bring leadership in relation to the pedagogical characteristics of principals in the schools of Serbia. Research results should be "signposts" for improvement and mastering leadership skills, for the support to management in theory and practice.

Review of the literature

One of the most perceived achievements in the literature on leadership in education is "Leading Learning Communities" by the NAESP (2001), which identifies six characteristics of instructional leadership. A big trace was left by Fullan (2010), whose work includes insights into school reform, change management and leadership development in education. Interesting is also the work by Méndez-Morse (1992), which identifies six leadership characteristics that facilitate school change.

There are some interesting studies in the area of leadership characteristics of principals in North Africa, by Naong (2011) and by Copeland (2003), who investigated the presence of instructional leadership traits as identified by the NAESP, of Blue Ribbon middle and high school principals. Studies of The Hay group (1999) analyze characteristics of highly effective principals in Australia; and the study of Hay Management Consultants (2000), which compared 200 highly effective principals with 200 senior executives in business in England and found that both groups were equally impressive and that the role of head teacher is stretching to business.

For the time being, studies on the connection between leadership characteristics and other variables of employees in education are rare. Research by Ngambe (2011) into the connection between leadership and moral in high education must be mentioned, and also research by Titrek and Celik (2011) into the connection between principals' leadership skills and self-awareness.

Based on the literature overview, we can conclude that the subject of this research is relevant, justified, but also insufficiently studied so the results will open a new direction in this field.

2. Research

2.1. Methods and sample

The data obtained were processed using a statistical method and regulated by quantitative and qualitative analysis. The Principal Component Analysis was carried out on questionnaires. Mutual connection between two variables was tested by Pearson's coefficient of linear correlation as well as Multiple Regression Analysis.

Research was conducted in 2011 in elementary and secondary schools in Serbia on a sample of 75 respondents consisting of principals and deputy principals. The study presented in this paper is part of a bigger study, partially presented in a paper by Andevski, Arsenijević (2012). The research sample is appropriate, with the elements of intentional.

2.2. Research instruments

The following instruments were used:

Questionnaire for (self)assessment of Leadership characteristics (36 items) ranked by a Likert scale. The validity of the measuring instrument was verified by the Principal Component The analysis showed that the measurement object was covered by 4 factors, while the reliability of the questionnaire was verified by Crombach's Alpha coefficient α=0.821, which was satisfactory.

The questionnaire for pedagogical competences (EC-25 items, modified, short version, according to Staničić 2000) contained 25 questions also scaled by a 5-point Likert scale. The validity of the measuring instrument was verified by factor analysis which showed that the subject of measuring was included in three factors. The reliability of the scale's internal consistency was expressed by Crombach's Alpha coefficient α=0.9 and represented satisfactory reliability.

3. Results

3.1. Principal Component Analysis
The items of the scales were subjected to the Principal Component Analysis, with the intention of reducing the initial set of variables and discovering the latent structure of two scales.

3.1.1. Factor Analysis for Leadership Scale
Four factors of leadership by Promax rotation were extracted (henceforth: LC factors), which jointly explained 36.8% of the total variance. The factors' structure with explanations, as well as characteristic roots and percentage of the variance explained have already been presented and discussed in the study by Andevski & Arsenijević (2012). The factors were called: *Low expressed leadership characteristics, Expressed leadership characteristics with a dominant desire for power, Tendency of respondents to be led by someone else* and *Self-assessment of oneself as a leader* (Andevski, Arsenijević, 2012: 38–39).

3.1.2. Factor Analysis for the Scale of Pedagogical Competences
Three factors of pedagogic characteristics were extracted (henceforth: PC factors), which jointly explained 36% of the total variance (Table 1). Such a solution was chosen because it is the most intepretable.

Table 1. Characteristic roots and percentage of the variance explained

	Prior to rotation			After rotation
	Characteristic root	Percentage of variance	Cumulative percentage	Characteristic root
1	6.098	24.393	24.393	5.621
2	1.471	5.885	30.278	3.829
3	1.422	5.686	35.964	2.602

Table 2. Excerpt from the matrix of structure of the first Promax factor

Question	R 1
Q5	.716
Q4	.703
Q22	.653
Q24	.630
Q6	.619
Q2	.606

The first Promax factor gathered the items related to good interpersonal relations as a precondition for succesful work in school and was called: *Good interpersonal relations and familiarity with pedagogical principles.*

Table 3. Excerpt from the matrix of structure of the second Promax factor

Question	R 2
Q25	.740
Q13	.685
Q19	.672
Q18	.607
Q20	.481
Q24	.440

The second Promax factor gathered the items related to the importance of good organization of educational activities and institution and was called: *Good organization of institution and educational process.*

Table 4. Excerpt from the matrix of structure of the third Promax factor

Question	R 3
Q7	.708
Q3	.691
Q16	.499
Q12	.454
Q23	.422
Q17	.379

The third Promax factor was characterized by items related to the democratic way of leading the school as institution and was called: *Democratic leading of a school and educational process.*

Legend: *Q2: Confidence among associates is an important precondition for successful implementation of planned professional tasks in educational institutions. Q3: In schools, different views of particular professional problems should be tolerated and different approaches to their solving should be allowed. Q4: It is necessary for the employees in education to be honest and consistent and to keep the promises given. Q5: It is good when employees in education do not run away from problems and crises leaving the others to solve them. Q6: Communicability is an important characteristic for successful work in school. Q7: Democratic school leading gives better educational results than other*

forms of leading. Q12: It is not necessary for the employees in schools to be burdened by solving conflicts, when they will be solved anyway, sooner or later. Q13: It is important to recognize the needs of employees in education and apply appropriate forms of motivation for their more effective work. Q16: It is necessary for employees in school to be familiar with the curriculum as well as didactic-methodological principles of their achievement in detail. Q17: It is necessary for the employees to be entirely included in each introduction of innovations in the educational process of their school. Q18: School will acquire its programme more successfully if employees have a clear vision of long-term pedagogical priorities of school. Q19: For school's efficient activity, it is important for employees to rapidly acquire and transfer all relevant professional information. Q20: For good results, it is necessary to constantly eliminate all the obstacles in their professional work in the educational institution and create more appropriate conditions for work. Q22: Employees in school should understand the sense and importance of planning and programming and know how to apply them in their work. Q23: It is important for employees to accept pedagogical principles and to know how to organize the educational process according to them. Q24: It is important for employees in school to understand the rules of interpersonal relations and be familiar with the mechanism by which a collective functions. Q25: Employees should know manners and procedures for the evaluation of the achievements of their work and the achievement of objective control of their work.

3.2. The Respondents' Average Scores on Factors

The following text presents the average value of summarized scores on the LC and PC factors, expressed with arithmetic mean and standard deviation. For each factor, six questions that best define it have been selected, so that the maximum possible sum score on each factor is 30 points.

In the first LC factor, on the lack of leadership characteristics, the respondents scored 11.8 points (st.dev.: 4.2), which means that they did not recognize the significantly pronounced lack of leadership potentials in themselves. In the second factor, about the distinctive leadership characteristics with dominant will for power, the respondents on average scored 15.6 points (st.dev.: 3.2), which means that this form of leadership potential was moderately expressed. The factor that indicates the respondents' tendency to be led by someone else was also moderately expressed: the respondents obtained 13 points on average (st.dev.: 3.85). In the factor indicating self-assessment as the leader, the respondents obtained the highest score, 22.2 on average (st.dev.: 2.3), which means that they perceived themselves as good leaders.

In the first PC factor about good interpersonal relations, the respondents obtained 28.3 points (st.dev.: 3.03), which means that this was the most important pedagogical characteristic to them. On the second factor about good organization of educational institution, the respondents scored 27.7 points on average (st.dev.: 2.4), which means that this pedagogical characteristic was also very important to them. On the third factor, called *Democratic leading of a school and educational process,* the respondents obtained 24.4 points on average (st.dev.: 2.9), meaning that this pedagogical characteristics was also important to them, but somewhat less than the previous two.

3.3. Correlation of Leadership and Pedagogical Characteristics

The correlation between leadership self-assessment and pedagogical dimensions was firstly verified by Pearson's coefficient of linear correlation.

The fourth LC factor, *Self-assessment of oneself as a leader,* statistically correlates with the first PC factor, *Good interpersonal relations and familiarity with pedagogical principles* (r=0.558; p=0.002), as well as the third PC factor, *Leading of a school and educational process* (r=0.490; p=0.007). These corelation coefficients have medium intensity and positive sign, which means that the more respondents evaluate themselves better as a leader, the more they are inclined to believe that interpersonal relations and good knowledge of pedagogical principles are the most important for good school organization and are more democratically oriented in running schools and the teaching process.

In addition to the mutual connection between the two variables by Pearson's coefficient of linear correlation, the connection was also tested by a series of Multiple Regression Analyses, where the criteria variables were the PC factors, while the set of predictors consisted of LC factors. The analysis determined by Multiple Regression Analysis determines a higher level of connection that provides the possibility of prediction.

1) Multiple regression analysis where the criteria variable is the First PC factor – Good interpersonal relations and familiarity with pedagogical principles

The regression model is statistically significant at the level of p=0.006. The coefficient of multiple correlation is R=0.666, and the set of predictors is explained with about 44% of variability of the variable system (R^2=0.443; F=4.771). Statistically significant beta coefficients have the first LC factor about low expressed leaderhip characteristics (beta=-0.371; p=0.028) and the fourth factor indicating self-assessment as a leader (beta=0.601; p=0.001). This means that when a principal has less pronounced leadership qualities, he/she has a less expressed belief that good interpersonal relations and familiarity with pedagogical principles are essen-

tial pedagogical features. As opposed to that, the more they estimate themselves to have leadership characteristics, the more prominent is their belief that good interpersonal relations and good knowledge of pedagogical principles are essential pedagogical features.

2) Multiple regression analysis where the criteria variable is the Second PC factor – Good organization of institution and educational process

The regression model is not statistically significant (p=0.159), the coefficient of multiple correlation is R=0.482.

3) Multiple regression analysis where the criteria variable is the Third PC factor – Democratic leading of a school and educational process

The regression model is not statistically significant (p=0.103), the coefficient of multiple correlation is R=0.516.

4. Discussion

The results of the participants' scores on LC factors indicate that most of them have leadership characteristics. That can be critically interpreted in the light of the social desirability bias, nevertheless, the possibility that the respondents gave socially desirable answers indicates that they properly evaluated the importance of leadership. However, since the respondents are employed in managerial positions, this possibility is small, and the presence of their leadership qualities is not a surprise. An encouraging result is, however, that the less evaluated factor was leadership with dominant will for power, which represents a more degenerative function of guiding than constructive and democratic.

The results of the participants' scores on PC factors reveal the managerial as well as pedagogical views of the respondents. They indicate that principals in Serbia are not elected (among other criteria) based on the education for their job – education in management. Their attitudes are rather intuitive, not attitudes built through an adequate education for the post of principal. In the management theory it is known that principals spend 80% of working time comunicating, achieving and maintaining interpersonal relations, so it is clear why the respondents value them so much. However, if these principals were elected for their post based on an adequate education, they would value the good organization of the educational institution and process, as well as democratic school leadership.

It is indicative that PC factors have organizational connotation as well. Interpersonal relations are a very important factor for creating organizational culture, they reflect climate in the organization and represent a leadership pillar. A good leader

creates good interpersonal relations, as a basis for emloyees' commitment to the organization's goals and their work enthusiasm, organizational learning and development. Organization of the educational institution and process, as well as democratic school management, are closely associated with leadership. Good organization and a democratic climate are basic preconditions for organizational development, creating a learning organization and entrepreneurial educational institution. Therefore, the results of factor analysis and in particular the respondents' average scores in PC factors indicate the inseparability of pedagogical work and leadership.

The fact that principals recognize leadership in pedagogical features shows that they assess leadership as an essential pedagogical feature, not only as an essential managerial feature, which is proven by the statistical correlation of leadership and pedagogical features.

The connection between pedagogical and leadership features also yielded interesting results. Although Pearson's correlation coefficient shows a connection between good interpersonal relations and democratic school management with leadership, the multiple regression analysis shows a connection between leadership and good interpersonal relations, but not with democratic school management.

The results of both analyses, however, have a strong logic and are built upon knowledge in the management theory. Namely, it is known that good interpersonal relations are the foundation of quality leadership. Leadership is a meaningly social discipline, and builing good interpersonal relations within a team creates conditions for quality guidance. It is, therefore, logical that the connection is statistically proved, and that it can be claimed that a good leader will highly value good interpersonal relations, and a person who has no leadership traits will not do so.

However, leaders often adopt several management styles. Although only democratic management can give long-term results, leaders in certain situations must take roles that gravitate towards autocracy. Therefore, although Pearson's correlation coefficient shows that there is a connection, multiple regression analysis shows that it cannot be claimed with certainty that anyone who highly values democratic management has leadership qualities. Still, it must not be ignored that democratic relations give better results in systems with good organization and members' financial security, which in the undeveloped and financially unstable Serbian education is not the case. Finally, democratic orientation is a value built in long-time learning or experience. Unlike it, mutual dependence of interpersonal relations and leadership is more tangible, perceptive. This is confirmed by the respondents' scores on PC factors, according to which the most important pedagogical feature is good interpersonal relations, followed by good organization of the school, and finally (but not negligible) democratic school management. Thus, it is clear why the connection with

democratic leadership was not manifested through the multiple regression analysis in the sample of Serbian principals, low financial security and system going through reforms, principals who are not elected based on education for management (except the recent system of their licensing through professional training).

5. Conclusion

This study is primarily based on the connection between leadership and pedagogical features. In essence, both concepts have the same personality task-development. Leadership through constant striving towards constructive improvement of leaders, employees, organization and environment, has much in common with the goal of pedagogy and education, for which the development, construction and shaping of personality is the primary task. However, the mystery behind this study was: is this connection present in practice, too, among school principals? School leaders more than ever feel in the crucible between two different and contradictory rationalities: educational and economic. On the one hand, principals must have leadership competences besides pedagogical ones, hence, they can feel the connection between them; on the other hand, they must constantly reconcile economic and pedagogical requirements, so they can testify about their contradiction.

Therefore, the task and the biggest contribution of this research to the science of education was establishing the connection between leadership and pedagogical features in a sample of principals, which was proved several times in this paper and which dominantly connects interpersonal relations and leadership qualities. A secondary contribution is finding that the respondents believed that they had leadership qualities and that they valued the most interpersonal relations like pedagogical features, which indirectly indicates the selection of principals in Serbia – they do not seem to be chosen based on adequate education, but they possess more intuitive than scientific, established knowledge in the field of leadership. The results should be signposts for improvement and mastering leadership skills, for the support to management in theory and practice.

These results are similar to the ones from the research by Andevski and Arsenijevic (2012), which indicated that there was a significant connection between leadership qualities and personality traits of emloyees in Serbian education. The results are closely linked to the study of Méndez-Morse (1992), which stated that successful leaders are characterized by having a vision, believing that schools are for student learning, valuing human resources, communicating and listening well, being proactive, and being a risk-taker.

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