

Isomorphism and variation of the school management of the Brazilian public elementary school network

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Abstract

This article discusses the homogeneity and variety of the network of the public education network of Brazilian elementary schools. The theoretical background is based on the contemporary institutional perspective debate about the homogeneity and variation of the organizational field. The study addresses a gap in the literature by focusing on how much structural forms are isomorphics in one organizational field as well as identifying their social consequences. From this, two propositions are presented. The first assumes that there is one educational management model spread in the public education network and the second points to variations related to the performance of schools. A survey was applied to 551 teachers from the municipal network of education of Belo Horizonte (MG). The results show that there is isomorphism in the educational management model based on values of dialogue and participation. However, there are also variations in this model, which are associated to the performance of schools. The article's main theoretical contribution is the identification of the institutional logics present in an organizational field and its consequences to the organization.

Keywords: Isomorphism. Organizational field. Institutional theory. School management. Educational management.

Isomorfismo e variação da gestão escolar na rede pública Brasileira de Ensino Fundamental

Resumo

Este artigo discute a homogeneidade e variação da gestão nas escolas da rede pública brasileira de Ensino Fundamental. Sua elaboração teórica se respalda no debate contemporâneo da perspectiva institucional que questiona a homogeneidade dos campos organizacionais. Uma das lacunas de pesquisa consiste em revelar como as formas estruturais de determinado campo organizacional são isomórficas e quais são suas consequências sociais. Diante desse quadro, levantam-se duas proposições. A primeira, relacionada ao isomorfismo, assume que há um modelo de gestão educacional disseminado nas redes públicas de ensino. E a segunda admite variações desse modelo associadas ao desempenho das escolas. Na metodologia, aplicou-se um *survey* a 551 professores da rede municipal de ensino da cidade de Belo Horizonte. Os resultados comprovaram o isomorfismo de um modelo de gestão educacional pautado nos valores de diálogo e participação. Também se observaram variações desse modelo associadas ao desempenho das escolas. Desse modo, a principal contribuição teórica do artigo foi a identificação das lógicas institucionais em um campo organizacional e suas consequências sobre as organizações.

Palavras-chave: Isomorfismo. Campo organizacional. Teoria institucional. Gestão escolar. Gestão educacional.

Isomorfismo y variaciones de la gestión escolar en las escuelas primarias públicas Brasileñas

Resumen

Este artículo discute la homogeneidad y variaciones de la gestión en las escuelas primarias públicas brasileñas. Su elaboración teórica se respalda en el debate contemporáneo de la perspectiva institucional que cuestiona la homogeneidad de los campos organizacionales. Una de las lagunas de investigación consiste en revelar cómo las formas estructurales de determinado campo organizacional son isomorfas y cuáles son sus consecuencias sociales. Ante este panorama, se plantean dos proposiciones. La primera, relacionada al isomorfismo, supone que hay un modelo de gestión educacional disseminado en la red pública de educación. Y la segunda admite variaciones de ese modelo asociadas al desempeño de las escuelas. En la metodología, se aplicó una encuesta a 551 maestros de la red municipal de educación de la ciudad de Belo Horizonte (Minas Gerais). Los resultados comprobaron el isomorfismo de un modelo de gestión educacional fundamentado en los valores de diálogo y participación. También se observaron variaciones de ese modelo asociadas al desempeño de las escuelas. Así, la principal contribución teórica del artículo fue la identificación de las lógicas institucionales en un campo organizacional y sus consecuencias sobre las organizaciones.

Palabras Clave: Isomorfismo. Campo organizacional. Teoría institucional. Gestión escolar. Gestión de la educación.

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INTRODUCTION

This article discusses the homogeneity and variation of the school management of the Brazilian public elementary school system. It is based on the institutional perspective, which introduces the notions of institutionalization and organizational fields (SUDDABAY, 2010). This perspective suggests that organizations become isomorphic in their management structural forms as they strive for environmental adaptation.

According to seminal scholarly work in the institutional perspective (MEYER and ROWAN, 1977; DIMAGGIO and POWELL, 1983), organizations adopt similar structures because of their relationships and networks, that is, the organizational field disseminates environmental myths, thus forcing organizations to conform to them. This process of value infusion, named institutionalization, creates the so-called institutional isomorphism. The isomorphism means the adoption of a structure considered as legitimized by a number of organizations as it is prescribed by the environment (BOXENBAUM and JONSSON, 2008). One of its consequence is the dissociation between structural forms and technical competence (WEICK, 1976). The corollary is that structure is not related to performance (BARLEY and TOLBERT, 1997).

Even though such perspective is consistent, we suggest its theoretical maturation is still to be reached. There are a number of research gaps (MEYER and HOLLERER, 2014), in particular, how isomorphic structural forms are in a given organizational field (WOOTEN and OHOFFMAN, 2008). The organizational field has become even more complex and full of conflicting demands. This points to a diversity of organizational forms and disputes about their logics (FINCHAM and FORBES, 2015). Recent studies show that organizations respond to their environment with less homogeneous and less automatic responses than previously supposed by the classical institutional perspective (REAL, JASKIEWICZ and HINNINGS, 2015).

As a consequence, the underpinnings of the institutional perspective have been criticized (SUDDABAY, 2010). In addition, a number of authors reinforce suggestions of advancing research on organizational fields (QUIRKE, 2013) and isomorphism (THORNTON and OCASIO, 2008; SAMPAIO, 2014). On the one hand, the literature review highlights recent attempts by International and Brazilian scholars. In this sense, some works aim to understand the formation of organizational fields (OJHA and RAO, 2014; LIMA, CABRAL, PESSOAL et al., 2015), its development and change (CORAIOLA, JACOMETTI, BARATTER et al., 2015; HOU, 2016), isomorphism and its processes (KELM, RENZ, ALLEBRANDT et al., 2014, WANG, 2016) and the different institutional logics (COLANER, 2016).

On the other hand, it shows a vacuum in the debate about how much isomorphism characterizes a given organizational field and its social consequences (SCOTT and AMARANTE, 2016). This is particularly interesting when we consider organizational fields composed of schools (BERENDS, 2015). On one side, research suggests that such organizations are subject to isomorphism (MEYER and ROWAN, 1983; RANSON and MOORE, 2014). On the other side, it also shows how heterogeneous they are in terms of their performance to the system (WITZIERS, 2006; SAMPAIO, 2014) and their strategies to deal with the environment (GUILLOTIN and MAGETIMATIN, 2015). To our knowledge, research on isomorphism of schools in terms of dissemination of structural forms of management, as well as the relationship between such structures and the learning performance of their students is still incipient (PEREIRA, 2012).

To help fill this gap, we look at the homogeneity and variation of a group of schools in the organizational field of teaching institutions, and its relationships with performance. How is the organizational field of Brazilian schools formed in terms of structural forms of management? Is there a relationship between these structural forms and the performance of the students? Based on these two research questions, we analyzed a particular structural form of management, herein educational management model.

The educational management model is a specific school management *modus operandi* situated in a given temporal dimension that has acquired regularity, permanence, and legitimation. Mechanisms such as allocation, coordination, and control of human resources and materials of schools are embedded in such *modus operandi* (CASASSUS, 2002). Such mechanisms also involve instruments, processes, and practices. Being more or less formalized, they guide the behavior of the participants by setting organizational goals, which to some degree adhere to the values of the institutional environment. In this regard, the educational management model is the result of the sedimentation phase of the institutionalization process (TOLBERT and ZUCKER, 1999). It refers to the endurance of a set of practices and values that are historically underpinned by a number of schools.

Based on DiMaggio and Powell's (1983) suggestion that an organizational field can only be verified by empirical tests, we argue that the educational management model is a powerful reference to discriminate the elements that constitute the organizational field of schools. We are aware that such configuration is not only able to portray the field as a whole, but it also specifies the characteristics of a particular set within this field. In our case, this refers to the schools of the teaching public network. Therefore, we put forward two testable propositions. First, we suggest the existence of an educational management model in this network. Second, we admit variations of this model which are associated with the performance of the schools.

These propositions were tested in the elementary schools of the teaching public network of Belo Horizonte (MG), Brazil. We surveyed 551 teachers, asking their opinions about the management of the school where they work for. The results point to an organizational field delimited by an educational management model characterized by dialogue and participation. We also found five variations of this model. Such variations point to specific educational management models which are to a greater and lesser degree related to the performance of the students.

In this sense, this article contributes by identifying institutional logics in an organizational field and their social consequences. We also identify structural forms of management disseminated in a field and their relationship with the performance of the students. This article is organized into five sections, including this section. In the second section, we highlight the theoretical references used to elaborate the research propositions and discuss organizational field and isomorphism. In the third section, we explain the methodology. In the fourth section, we present and discuss the results. Finally, we present the conclusions in the fifth section.

THEORETICAL DEVELOPMENT

The institutional perspective is built at the macro level of analysis. It is assumed that it cannot separate internal processes of organizations from the environment (SELZNICK, 1996). This conceptualization has contributed to the understanding of how organizations structure their management practices threefold. First, it acknowledges that the values disseminated in the organization's relationships and network influence choices related to management practices. Second, a group of organizations adopts a similar structural form of management because they are forced to imitate each other. Third, it shows a decoupling between structure and mechanisms through which the work is effectively performed. It concludes that organizational structures are not necessary for performance (BOXEMBAUM and JONSSON, 2008).

These three widely accepted contributions in organizational studies have been further elaborated as scholars have developed the idea that organizations, seeking legitimation in the environment, conform their practices to the values disseminated in their relationships and network (MEYER and ROWAN, 1977). This network is what has been referred to as organizational field (WHILE, OWEN-SMITH e MOODY et al., 2004). An organizational field was originally defined as an area formed around organizations that produce or consume similar products and services. They increase interactions as they communicate and exchange with one another. They develop a mutual understanding of a problem or a common topic (DiMAGGIO and POWELL, 1983). This area imposes a number of prescriptions and requirements by means of laws (coercive pressure), rules (normative pressure) and successful models (mimetic pressure). Such pressures exert an influence upon organizations to become isomorphic in terms of structure and behavior (OHJA and RAO, 2014).

The structural isomorphism is then a response of organizations to pressures stemming from the field. As organizations conform their structures to rules and behavior standards regarded as right, they increase their capacity to manage interdependencies, as well as they develop protection against queries about their behavior (MEYER and ROWAN, 1977). Although this postulate is what distinguishes the institutional perspective from other perspectives in organizational studies, it has been questioned by a number of scholars. For example, other denominations of the organizational field such as the logic of collective action (FLIGSTEIN, 2001), societal sector (SCOTT, 2001), interest institutional arrangement (JEPERSON, 1991) illustrate the variety of meanings of this concept (MACHADO-DA-SILVA, GUARIDO FILHO and ROSSONI, 2010). Yet, there have been criticisms on the uniformity of institutional pressures (DUTTA, 2016), the excess of structural homogeneity (FINCHAM and FORBES, 2015),

the inertial tendency within the field (BOXEMBAUM and JONSSON, 2008), the emphasis on the reification (WOOTEN and HOFFMAN, 2008) and the absence of the interpretative ground of agency (DUTTA, 2016).

These criticisms bring to the fore inconsistent purposes and changes that happen to organizations in highly institutionalized contexts. Acknowledging the dynamics of the field implies assuming the paradox of homogeneity and heterogeneity (LI and CHUNG, 2016), and the consequences of organizational forms that are associated to that homogeneity or heterogeneity (COLANER, 2016).

Even though it is now accepted the idea of degree of homogeneity of organizational fields (DUTTA, 2016), types of isomorphism (LI and CHUNG, 2016) and decoupling of structure and result (DACIN, MUNIR and TRACEY, 2010), the hypothesis about the positive relationship between the degree of organizational uncertainty in terms of means and ends and the level of isomorphism in a given field still holds (FAY and ZAVATTARO, 2016). It also holds that isomorphism in a field is high when organizations used trust embedded in academic titles to select their staff (THOMAS, BILLSBERRY, AMBROSINI et al., 2014).

In particular, it is suggested that the organizational field of schools is highly subject to isomorphism (HANSON and MOORE, 2014). Schools adopt the same hiring practices (LIPSON, 2011), academic pedagogical programs (FELIX, GUARIDO-FILHO and GONÇALVES, 2015) and services management. This suggests that some structural arrangements of educational management are prevalent (RASCHE, GILBERT, SCHEDEL et al., 2013). Therefore, it is plausible to suggest that schools adopt isomorphic educational management models in their organizational field.

The educational management model is the sedimentation phase of institutional processes (TOLBERT and ZUCKER, 1999). It refers to concepts and practices about how to manage resources in the teaching and learning process (CASASSUS, 2002). Such model is a consequence of pressures stemming from the institutional environment. This happens by a domination of particular values that disseminate management and pedagogical practices considered as legitimized and desired (THOMAS, BILLSBERRY, AMBROSINI et al., 2014). The educational management model is an example of what Junquillo, Almeida and Silva (2012) refer to as the intercept of the macro and the micro-social plans, that is, the meso-social plan. In this plan, the making of the educational management concurrently implies the normative reproduction of society and the production of guidelines and rules for the school quotidian.

In this sense, we define educational management model as a pattern composed of management practices about the formulation of the overall program of the school and the pedagogical practices. It involves how to perform educational actions such as curriculum, contents, as well as how to teach (LEDESMA, 2008). The educational management model is a structural propriety from what is legitimized, and it endures in the process of mobilizing educational resources in a given historical period. Theoretically, such model is an example of the isomorphic structural form that dominates the organizational field of the schools. We derive our first proposition based on this line of reasoning. It is anchored in the institutional perspective, that is, schools tend to be isomorphic with regards to such models. The proposition is formulated as follows:

Proposition 1: The organizational field of schools is dominated by a widely adopted educational management model by schools

The pervasiveness of an organizational form in a field does not imply the inexistence of variations because the organizational field is not a monolithic and static entity (WOOTEN and HOFFMAN, 2008). Organizations differ in their strategic responses (CANNON and DONNELLY-COX, 2015), and such responses vary because of the causes, the contents and the control of pressures (OLIVER, 1991). Different mechanisms of institutional pressure (GAWER and PHILLIPS, 2013), organizational self-interest (SEO and CREED, 202) and internal orientations and disputes produce different results (REAY, JASKIEWICZ and HININGS, 2015), and provoke some heterogeneity within the field (OCASIO and RADOYNOVSKA, 2016). Change and variations happen within the organizational field (FINCHAM e FORBES, 2015) and can trigger different effects and or results in this same field (GUILLOTIN and MAGETIMATIN, 2015).

Schools illustrate this situation and show the paradox of the relationship between structural isomorphism, decoupling of structure and performance. For instance, in the Brazilian teaching school networks, at the same time we observe similarity of educational programs (GOMES, 2005), we also observe differences of learning performance of students (SOARES, 2006). This raises questions about the conditions that increase performance in schools (WERLE, KOETZ and MARTINS, 2015). A number of scholars such as Mortimore (2008) suggest that in addition to parental factors, student characteristics and their economic

situation, the educational management influences such learning. In this sense, it is suggested the existence of more successful educational management models in terms of their consequences to students (CASASSUS, 2002). Needless to say, the idea that educational management models are associated with learning of students have been disseminated (WITZIERS, 2006). This goes against the assumption of the institutional perspective in that the organizational structures of schools are not related to their performance (MEYER and ROWAN, 1983).

The variations of educational management models are inseparable from the institutional processes of the field. That is, in adopting certain structures of educational management, concepts, management, and pedagogical practices are reinforced by their use; however, they can also be reformulated by reinterpretation, thus producing values in terms of problem-solving of the educational quotidian. Schools show a rational and meaningful behavior stemming from their existence and justify such behavior in relation to the ends they aim to reach.

Based on its practices, each school develops a set of own values in the field, and seek to legitimize them by confronting them with other logic that flows through environmental pressures. The institutional logic is the content and the meaning of the elements that distinguish practices and norms of sets of schools as institutions. Such logic is used by organizational actors to either reinforce patterns or promote changes in the logic of their own actions (THORNTON and OCASIO, 2008). In this sense, institutional logic provides the connection between the macro dimension of the organizational field and the micro dimension of the organizational action (FRIEDLAND and ALFORD, 1991).

Isomorphism understood through the dispute of institutional logics, shows the inexistence of automatic responses of organizations to environmental pressures, or that organizations do not adopt a particular behavior without thinking about it (COLANER, 2016). Institutional logics highlight the agency of schools as they express their management and pedagogical practices (COBURN, 2004) by indexing a vocabulary of how they should be managed. The educational management models express such logic and are underpinned by cultural conceptions and political disputes within schools, revolving around the conceptions of the educational program stemming from schools as well as from the organizational field.

The various institutional logics developed by schools have effects on the field, as well as on the schools themselves (TAYLOR and KAHLKE, 2017). In the organizational field, such logics imply variations of isomorphism and disputes of values on the performance of students. In this regard, it lends support to the idea that there are more successful structural arrangements in terms of results to the system. Following this line of reasoning, our second proposition takes into account variations within organizational fields and the existence of contradictory institutional logics. Most importantly, we advance such idea and suggest a relationship between structural form and performance of schools in terms of students. That is, the second proposition suggests a relationship between the educational management model and the performance of the school. The proposition is formulated as follows:

Proposition 2: The variations of the educational management model in the organization field of schools are related to the different performance of schools

METHODS

A discussion about homogeneity and variance of structural forms in organizational fields requires a broad research method since its subject concerns populations of organizations. In this sense, the quantitative method is the most indicated one because it covers the largest number of organizations (HAIR, BLACK, BABIN et al., 2010), as well as provides explanations that contribute to the advance and discussion of theories (MILES and HUBER, 1994), according to the theoretical purpose of this research. Therefore, the two research propositions are tested in a quantitative approach applied to the context of public elementary schools in Brazil.

Study context

According to the Brazilian Law that regulates education standards, known as “Law of Guidelines and Bases for National Education” (LDB), basic education for children from the age of six are free at public schools and endures until they finish elementary education, covering approximately 15 years (BRASIL, 1996). The level of educational achievement is evaluated through the IDEB (Basic Education Index).

This index is applied by the Ministry of Education (MEC) every two years and depicts a diagnosis of each school and its network in relation to the performance of students, that is, their learning. On a scale ranging from 0 to 10 points, historically, the IDEB shows the quality of education in Brazil is quite low. In 2007, this index was 3.8, with little progress, reaching 4.1 in 2011 and 4.5 in 2015. Based on these results, it can be said that schools have faced difficulties in reaching their goals.

Population and sampling procedures

The research population comprised 187 schools of Belo Horizonte Metropolitan network area (MG) that serve up to twelve-year-old students. To select the sample, the probabilistic, multi-stage technique was used. The first stage was a stratified sample and the second, a cluster sampling.

In the first stage, the population was divided into IDEB classes by the 33.33 and 66.67 percentiles and by spatial distribution. With this procedure, we split the population of schools according to educational performance (low, medium and high) and by spatial location, reaching 27 sampling strata. The variance within strata was reduced to 0.327 times a population variance, indicating good sample balance with 86 schools, since inequality in group sizes and some empty strata were found.

At the second stage, a sample of 630 teachers from the municipal network out of the universe of 2194 units was extracted from 86 schools selected at random within each stratum. This sampling was based on the proportional coverage of 14 observation units (teachers) in each school, permitting a sampling error of 3.2% with 95% confidence. After fieldwork, 551 respondents were reached. The adjusted sampling error was 3.4%, which was lower than usually expected for conclusive studies, i.e., less than 5%.

Construct and items development

After a thorough literature review, it was observed that the works of Casassus (2002), Gomes (2005) and Ledesma (2008) contain the necessary foundations for defining items and constructs for the questionnaire. These authors share common ideas about institutional theory and assume the existence of educational management models, similar to those proposed here.

Based on the analysis of the literature and in particular on the aforementioned studies, 28 variables were elaborated. They were linked to the four theoretical dimensions identified in the institutional theory and in its intersection with the discussion about educational models, namely: values of the institutional environment, administrative practices, pedagogical practices and school's community relationship. The values of the institutional environment refer to the rules set by governmental regulations of education and pressures of educational class associations incorporated by the schools. Yet, administrative and pedagogical practices comprise daily practices of the schools. Administrative practices contemplate the actions of the director with regard to the management of the school. The pedagogical practices concern the ways of carrying out the educational activities in the classroom. Finally, community relationships include the active parental involvement in the school day routine.

Once these dimensions were identified and variables were extracted from the literature and interviews, the initial questionnaire items were submitted to content and face validity. A group of six educational and administrative specialists, mainly professionals that manage the city public schools network evaluated the questionnaire. This validation was carried out in three face-to-face meetings of two hours each, in which their questions were thoroughly discussed. The final version of the questionnaire contained a seven-point Likert-type scale for marking the degree of agreement or disagreement on statements about the educational management model. It also included questions about respondents' demographic data such as age, teaching time, and educational level. The questionnaires were directly distributed to teachers.

Statistical tests

Data were processed by SPSS 20.0 and AMOS 8.0 for assumptions and data quality checking, exploratory and confirmatory factor analysis, clusters analysis and structural equation modeling. These techniques are based on linear correlations to make inferences about the dependence between variables (HAIR, BLACK, BABIN et al., 2010). Factor analysis seeks for groups of correlated variables, extracting the smallest number of factors with minimal loss of information (true variance). Factor analysis

allowed us to identify how many and which variables were grouped, detailing the dimensions of the educational management model. Therefore, it underpins the testing of proposition 1.

Structural Equation Modeling (SEM) and cluster analysis were used for testing proposition 2. Structural equation verifies whether the relationships between the model variables are supported by the empirical data (NETEMEYER, BEARDEN and SHARMA, 2003). It allowed us to verify relationships between the dimensions of the educational management model and the school performance. The cluster analysis revealed subgroups of schools with similarities in their educational management model dimensions, that is, exploring if there were groups of schools with distinct profiles in the educational management model. Thus, this analysis established clusters of schools with different profiles and associated them with variable school performance.

RESULTS

The results of the statistical tests were described below.

Factor analysis results

Factor analysis results showed item loads greater than 0.45 in absolute terms as an evidence of a significant relationship with one factor. Kaiser-Meyer-Okin statistic (KMO) was above 0.900 (HAIR, BLACK, BABIN et al., 2010), which represents an excellent standard for application of the Exploratory Factor Analysis (EFA). The percentage of variance explained by the solution was good, greater than 60% (TABACHNICK and FIDELL, 2003). Yet, communalities (h²) showed levels above the recommended limits of 40% (DUNN, SEAKER and WALLER, 1994).

Reliability of the factors and parameters found in the EFA were analyzed with Cronbach Alpha (CA), Composite Reliability (CR) and Average Variance Extracted (AVE). Results reveal that factors achieve acceptable levels of reliability and validity, that is, 0.70 for CR and CR and 0.40 for AVE. In sequence, convergent and discriminant validity of the factors was assessed. Convergent validity was assessed by the significance of factor loadings with one-tailed tests (t critical t = 1.65 or t = 2.33) (BAGOZZI, YI and PHILIPS, 1991) and by items communalities (R²). Data demonstrate that the constructs were significant predictors of items variance with 99% of confidence. Factor loads were higher than 0.63, with more than 40% of the variance of the items explained by its factors.

Measures of discriminant validity were adequate, which means that each construct reflects different aspects of the revealed educational management model (See Table 1). Therefore, proposition n. 1 was confirmed. That is, the organizational field of educational institutions is dominated by a management model widely adopted by schools. The identified model consists of 8 factors (GM, AM1, AM2, AM3, CR, VV1, VV2, VV3).

Table 1
Summary of validity and reliability assessment

Factor/Code	GM	AM1	AM2	AM3	CR	VV1	VV2	VV3
GM	0,57	0,61	0,66	0,42	0,49	0,04	0,72	0,19
AM1	0,37	0,65	0,71	0,49	0,52	0,03	0,53	0,20
AM2	0,44	0,50	0,48	0,54	0,51	0,01	0,70	0,33
AM3	0,18	0,24	0,29	0,49	0,41	0,11	0,38	0,20
CR	0,24	0,27	0,26	0,17	0,71	0,09	0,45	0,49
VV1	0,00	0,00	0,00	0,01	0,01	0,51	0,02	0,28
VV2	0,52	0,28	0,49	0,14	0,20	0,00	0,52	0,20
VV3	0,04	0,04	0,11	0,04	0,24	0,08	0,04	0,50
Cronbach Alpha (CA)	0,93	0,88	0,71	0,57	0,88	0,69	0,76	0,66
Average Variance Extracted (AVE)	0,57	0,65	0,48	0,49	0,71	0,51	0,52	0,50
Composite Reliability (CR)	0,76	0,83	0,64	0,65	0,89	0,68	0,69	0,79

Source: Elaborated by the authors.

Note: The values on the main diagonal represent the AVE. Values below represent squared correlations between factors. Values above the diagonal represent correlations. The table also presents values for scales and items reliability.

Structural equation modeling results

To test the nomological validity, the structural model was conceived in which performance was measured as a latent variable, using the IDEB results for a period of three years for the surveyed schools. Results show that 23% of the variance of the students' learning achievements could be explained by the educational management model. The adjustment of the model was moderate, considering the Normed Fit Index (NFI) and Comparative Fit Index (CFI) that were above the recommended levels of 0.90. According to Cohen (1988), more squared multiple correlations greater than 25% ($d = 0.50$) support the model predictive power with moderate effect size. Thus, proposition 2 was confirmed. All factors of the educational management model have positive relationships with school performance. It is noticeable that GA ($\beta = +0.20$ $p < 0.05$), CR ($\beta = +0.35$ $p < 0.01$) and VV3 ($\beta = +0.22$ $p < 0.01$) showed significant relationships with performance.

Cluster analysis results

Ward's hierarchical method was applied as an agglomeration algorithm (minimum variance) with squared Euclidean distance as a dissimilarity measure. In order to define the number of clusters, the coefficient of agglomeration was verified at each stage of the hierarchical process, evaluating the growth of the coefficient (c) when going from stage i to stage $i + 1$ ($\frac{c_{i+1} - 1}{c_i}$).

The data reveal a good fit for a solution with five clusters, taking into account homogeneity of performance and dimensions of the educational management model (Table 2). The groups were ranked according to the greater relevance of their values of the average achievement on IDEB.

Table 2
School Cluster's Profile

Cluster Dimension	B	A	D	C	E	
Participative management	5,90	6,02	6,02	5,80	6,22 ^{abcd}	
Political pedagogical project	4,52 ^{ad}	3,98	4,04	5,55 ^{abde}	4,54 ^{ad}	
Interdisciplinarity and active pedagogical coordination	5,72 ^{acde}	5,00 ^d	4,10	5,16 ^d	5,39 ^{ad}	
Materiality and conditions of the learning process	5,72 ^e	5,94 ^{be}	6,36 ^{abce}	5,81 ^e	5,44	
Role of the teacher	4,01 ^{ce}	4,39 ^{bce}	4,40 ^{bce}	3,44 ^e	2,82	
Cohesion of vision and relationships	5,48 ^c	5,44 ^c	5,67 ^{abc}	5,17	5,52 ^c	
Family condition	2,22 ^c	2,09 ^c	3,31 ^{abce}	1,71	2,80 ^{abc}	
Parental Involvement	2,55	3,85 ^{bcd}	2,59	3,48 ^{bd}	3,85 ^{bcd}	
Average IDEB	4,46	4,67 ^b	4,72 ^b	4,79 ^b	5,39 ^{abcd}	
Average teacher's age	45,7	50,49	45,97	47,89	46,47	
Teaching experience (years)	20,96	23,04	21,09	23,49	21,74	
School timing (years)	9,58	12,81	12,08	13,66 ^b	11,95	
Education level	Graduate	37% ^c	44% ^{ce}	32%	22%	26%
	Graduate with Specialization	60%	50%	66%	74% ^{ab}	70% ^a
	Post-Graduate (Master or Ph.D.)	3%	6%	2%	4%	4%

Source: Elaborated by the authors.

Note: Keys above numbers indicate differences between clusters averages with 5% significance, according to t-tests for independent samples (two-tailed). Keys next to the averages show that the mean of that group is significantly higher than the average of the group whose key is highlighted.

DISCUSSION

The analysis of the factors enables us to extract dimensions describing the educational management model that is widely adopted by schools (See Box 1). The clusters point to the degree of variation of this model. Data analysis suggests the following.

Isomorphism of the educational management model

There is a high level of isomorphism in the field composed of public elementary schools in terms of their educational management. The schools show a similar *modus operandi* with regards to how to manage the teaching and learning process. We identified a model based on participation, dialogue and respect to differences. Therefore, we support the assumptions of the institutional perspective in that the organizational field of schools is highly subject to isomorphism (FAY and ZAVARATTO, 2016).

The participative management (F1) is shaped both by participation and dialogue, as well as goals and clear targets, drawing attention to the role of school management team. Scholarly work on educational management shows the importance of school management team in creating mechanisms for listening and dialoguing with the community with the aim of supplying its demands (SOARES, 2014). Our model points to the action of the school director in managing the schools. In this sense, it lends support to recent claims that the human agency is important to the concept of isomorphism (LI and CHUNG, 2016).

The subjective capability of reaching results influences the emergence of organizational forms. For example, Mella, Cusato, Palafox et al. (2002) argue that sharing responsibility between the school director and teachers has a positive influence on the performance of the school. However, concentrating on either the school directors or the teachers produces undesirable effects (COLLINSON and TOURISH, 2015). In our research, teachers believe that their role is to transmit formal knowledge (F2). This teacher role lends support to the institutional perspective in that professional values shape the structure of the school (RASCHE, GILBERT, SCHEDEL et al., 2013). Such values are conjugated with the active parental involvement in the school activities (F3). It seems that the relations between teachers are good (F4). They say that their practices are shaped by the political pedagogical project as well as the respect for coordinators (F5).

The educational management model here identified is similar to Casassus' (2002) B paradigm. B paradigm is characterized by a holistic view, non-linearity, focused on practices of dialogic construction, shared views, and relationships between a number of different social actors. In such paradigm, the participative and democratic view is part of a socio-critical conception that goes hand in hand with self-management and interpretative conceptions. In the organizational forms that are prevalent in our research, it is admitted that pedagogical management offers good material conditions (F7), as well as the performance of students, is directly linked with parental conditions (F8).

Box 1

Variables, factors, and dimensions of the educational management model

Code	Question	Factor	Dimension
GM	31. The director of the school draw much attention to pedagogical management	1	Participative Management
GM	32. The director of the school relies heavily on the capability of teachers for performing their roles		
GM	34. The director of the school considers and takes great advantage of the different points of view		
GM	35. The director of the school seeks community participation in their decision-making process		
GM	36. The director of the school has clear-cut goals		
GM	37. The school decisions are based mainly on collective interests		
GM	38. The school takes a lot of consideration the teachers' demand		
GM	39. The school greatly stimulates parental involvement in its quotidian		
GM	40. The school engages in many alliances with representative entities of society		
GM	41. Different views within the school positively contribute to school management		

Continue

Code	Question	Factor	Dimension
VV1	12. To approve the student, I first consider its intellectual performance	2	Teacher's role
VV1	14. My major educational goal is for students to learn formal knowledge		
CR	42. Parents are very much involved in extracurricular activities developed by the school	3	Parental involvement
CR	43. Parents participate a lot in meetings that directly involve their children		
CR	44. Parents greatly participate in the elaboration of the pedagogical political project of the school		
VV2	26. There is a lot of cooperation among the school teachers	4	Cohesive values and relationships
VV2	27. The views of teachers are very similar in terms of pedagogical management		
VV2	28. The view of teachers and the director are very similar in terms of administrative aspects		
PM1	04. I have a deep knowledge of the pedagogical project of the school	5	Political pedagogic projects
PM1	05. The majority of the school teachers participated in the elaboration of the pedagogical political project of the school		
PM1	06. The pedagogical political project is the main guiding of the school activities		
PM1	07. The pedagogical political of this school is properly formalized		
PM2	03. The curriculum of this school interrelates the contents of several disciplines developed in the cycle	6	Interdisciplinarity and active pedagogical coordination
PM2	17. The pedagogical coordinator of this school directly influences the activities developed by teachers in the classroom		
PM3	01. The library has the books I need for developing my activities as a teacher.	7	Materiality and conditions of the learning process
PM3	02. I often use the library in the development of work with the students		
VV3	22. The performance of the students of this school is mainly explained by their socio-economic conditions.	8	Family conditions
VV3	23. The performance of the students of this school is mainly explained by high parental involvement		

Source: Elaborated by the authors.

Variation of the educational management model

We found differences of the educational management model whose explains the performance of the schools. This result is backed by some scholars such as Witziers (2006) who point to specific forms of educational management that exert more influence upon the performance in terms of learning. Schools assume different values, which seem to influence the system as a whole heterogeneously. This underpins the claims about the competition of different logics in the field composed of schools (TAYLOR and KAHLKE, 2017).

In our study, the significant variations are participative management (F1), teacher's role (F2) and parental involvement (F3). The clusters suggest that the difference between higher performance and lower performance are not significant. The largest difference is between highest performing schools and lowest-performing schools. This means that the more schools give importance to management, adopt participative practices and community involvement and their teachers assume more responsibility for the learning results, the more schools reach better performance.

A surprising result is that the pedagogical management is not statistically correlated with performance. This goes against the literature to the extent that scholarly work suggests that it is sufficient for learning (HORA, 2007; RASCHE, GILBERT, SCHEDEL et al., 2013). This counterintuitive result draws attention to the decoupling between pedagogical practices and performance (COBUNR, 2004). In this sense, it points to the ceremonial character of pedagogical projects. It also suggests rethinking the content and the nature of pedagogical practices developed in the school quotidian by the school management

team standpoint. That is, how the school management leading by the school management team can be responsible for an adequate pedagogical management. Collins and Tourish (2015) show that critic and decentralized leadership has a positive effect on school performance.

It seems to have a dispute within the institutional process of the educational management model, which lends support to the assumption of either type of conformity (QUIRKE, 2013) or internal pressures within organizations (FELIX et al., 2015) by means of commitment (LI and CHUNG, 2016). This is because highest performing schools are on the opposite side of lowest-performing schools. The former has more experience, are older and have more qualified teachers who hold a post-graduate degree. In addition, such teachers have a more critical view and are more responsible for the teaching process. In assessing the reasons why their students perform better, they tend not correlate such performance with the parental socioeconomic situation, which is in sharp contrast with teachers who work for lowest-performing schools.

These results are aligned with research showing that teacher views and values are highly important to the performance of students (GOMES, 2005). Such studies found that the more teachers explain the performance of students in terms of parental socio-economic situation, the lower the performance of students, regardless of their socio-economic situation. Rather, in schools where teachers assume responsibility for the causes of the performance of students, there is a tendency of students to perform better in terms of learning (CASASSUS, 2002). This study suggests the existence of some social consequences that are more impactful for schools, in particular, if organizations take advantage of internal diversity as well as being committed to their student values. In this sense, we throw some light on the institutional perspective showing that isomorphism does not necessarily mean disregarding heterogeneity of organizational fields. Rather, it implies assuming the paradox of similarity and difference.

Therefore, we show that the organizational field of schools is not highly homogeneous. There are variations of educational management models. The major differences that have more influence on performance are the management of schools. Such management is shaped by participation and diversity, strong relationships with the community and the responsibility of teachers for the teaching and learning process.

CONCLUSION

This study discusses homogeneity and variations of the school management of the Brazilian public elementary school system. In doing so, it surveyed the public school network of Belo Horizonte (MG), Brazil. It concludes showing the existence of isomorphism of the educational management model, which is underpinned by values and practices of participation, dialogue, and respect to differences.

Even though such model is widely adopted, we found that the highest performing schools give more importance to participative management focused on goals and diversity. In addition, they adopt more participative practices and community involvement. Their teachers assume more responsibility for the teaching and learning process. In this sense, this study contributes to the understanding of the consequences of variations of educational management models. It shows that specific values and management practices have more influence on the performance of public elementary schools.

However, this research has some limitations. First, the organizational field was defined as a set of a given population, underestimating its relational nature and other relevant actors besides the school. Second, even though our results can be generalized to the public elementary schools of Belo Horizonte (MG), we cannot generalize them to private schools, other grades, and other Brazilian states. In this sense, we suggest that further research should take into account schools other than the ones researched here, as well as pay attention to their variations. Longitudinal, qualitative case studies are also welcome in order to deepen our understanding of the evolution of values and practices that lead to highest performance.

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