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Implementation of SIMADE: analysis of the performance of school principals

Implementação do SIMADE: análise da atuação dos diretores escolares

Implementación del SIMADE: análisis del desempeño de los directores escolares

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Abstract: This article analyzes the implementation of the *Sistema Mineiro de Administração Escolar* (SIMADE) from the discretion of middle-level bureaucrats: the principals of the state public schools. Methodologically, it is a quantitative research in which it is observed: a gap between the formulation and the implementation of the policy; the production of new rules regarding the access and use of the system; implementation aimed at the administrative or pedagogical use of SIMADE. Therefore, there is a continuous work of discretion through which school principals build different policies in the context of the public state network of Minas Gerais.

Keywords: Public Policy Implementation. SIMADE. School Principal.

Resumo: Este artigo analisa a implementação do Sistema Mineiro de Administração Escolar (SIMADE) a partir da discricionariedade dos burocratas de médio escalão: os diretores da rede estadual. Metodologicamente trata-se de uma pesquisa quantitativa em que se constata: um distanciamento entre a formulação e a implementação da política; a produção de novas regras no tocante ao acesso e uso do sistema; a implementação voltada para o uso administrativo ou pedagógico do SIMADE. Portanto, há um contínuo exercício de discricionariedade, por meio do qual os diretores escolares constroem políticas diversas no contexto da rede estadual de Minas Gerais.

Palavras-chave: Implementação de Política Pública. SIMADE. Principal Escolar.

Resumen: Este artículo analiza la implementación del Sistema Mineiro de Administração Escolar (SIMADE) a partir de la discrecionalidad de los burócratas de rango medio: los directores del sistema escolar. Metodológicamente, se trata de una investigación cuantitativa en la que se constata: un distanciamiento entre la formulación y la implementación de la política; la producción de nuevas reglas de acceso y uso del sistema; la implementación centrada en el uso administrativo o pedagógico del SIMADE. Por lo tanto, existe un ejercicio continuo de la discrecionalidad, mediante el cual los directores de las escuelas construyen diversas políticas en el contexto de la red pública estatal de Minas Gerais.

Palabras clave: Implementación de Políticas Públicas. SIMADE. Principal de la escuela.

ⁱ PhD in Education from the Pontifical Catholic University of Rio de Janeiro (2019).

Introduction

The concept of public policy has different definitions. Some definitions emphasize power, actors, organizations, while others focus on the logic of State action and intervention in specific sectors (Dye, 1984; Höfling, 2001). According to Souza (2003), public policy is “a set of government actions that will produce specific effects” (Souza, 2003, p. 24). Being involved in interests and disputes, public policies are designed considering economic, social, political, and cultural aspects of a given society, which define its contours and contexts, as well as the arrangements with different instances.

As an analytical framework, research has adopted the public policy cycle (Mainardes et al., 2011) with overlapping or merging phases — Agenda, Formulation, Implementation and Evaluation — or the research in only one of these phases (Lotta, 2014; 2015; Giusto & Ribeiro, 2019). And the least prominent one in the studies is the implementation, both in the national and international literature since there is a limited amount of work that investigates the elements and factors that influence it (Dye, 1984; Oliveira, 2019; Muylaert, 2019).

This finding is also found in studies on the public policy *Sistema Mineiro de Administração Escolar* (SIMADE), a school management system implemented since 2008 by the Minas Gerais State Department of Education (SEE/MG), and in partnership with the Center for Policies and Education Evaluation at the Federal University of Juiz de Fora (CAEd/UFJF)¹, in public schools in the state of Minas Gerais. Research on SIMADE (Fonseca, 2014; Salgado, 2014; Tomaz, 2015; Balduti, 2017) presents the phases of public policy, but the implementation is analyzed in an operational, linear way, favoring the hierarchy of activities conducted in the system. The analysis models of these research establish little dialogue with the debates in the national and international literature and there is limited observation of the performance of educational agents and the senses and meanings they attribute to the system and its data.

Implementation is a complex process, which involves the subjectivity of agents who, when interpreting the texts of public policies based on their experiences, values, and beliefs, render this stage very unpredictable (Lima, 2019). As a result, there is in implementation a significant margin of discretion performed by school actors, where the effective limits of their power leave them free to make a choice between courses of action and inaction (Bonelli et al., 2019). According to Mota et al. (2019), the exercise of discretion is inevitable and necessary since formal rules cannot account for all concrete cases, and it is essential that the agent exercises his power so that the organization adapts to reality, works, and serves people. According to Lotta (2015), discretion comes to be understood as “[...] not only as empirical evidence, but almost as a normative ideal, insofar as the importance of autonomy for the recognition of reality in the implementation of public policies is proven.” (Lotta, 2015, p. 28).

In the implementation of SIMADE, discretion can be exercised by middle-level bureaucrats (BME), who have an intermediate position between the top and bottom of the organizational

¹ Currently referred to as *Fundação CAEd*.

structure, which operationalize the public policies that the higher-level ones formulate (Muylaert, 2019). In other words, they are the “actors responsible for interacting with their subordinates and ensuring their compliance with the implementation of rules designed by higher levels” (Fuster, 2016, p. 7). In the context of SIMADE, this actor is the principal, who, in addition to having an essential role in organizing schoolwork, leading, and coordinating the routine of teaching units (Drabach & Souza, 2014), puts “the elements of the school into action organizational process (planning, organization, evaluation) in an integrated and articulated way” (Soares & Teixeira, 2006, p. 157).

In view of the characterization of this agent and the delimitation of the implementation stage of a public policy, the object of this article is to analyze the implementation of SIMADE from the discretion of middle-level bureaucrats, the school principals of the state public schools of Minas Gerais. In conclusion, we seek to understand the middle-level bureaucracy in the educational context of Minas Gerais from the profile, performance and relationships established by school principals in accessing and using SIMADE.

Stages of SIMADE public policy

Even with the scarcity of studies on public policy SIMADE (Lima, 2019), research (Fonseca, 2014; Salgado, 2014; Tomaz, 2015; Balduti, 2017) allows the observation of the interrelation between the phases and the political, historical, economic, and educational nuances of Minas Gerais in the institution and implementation of SIMADE.

The Agenda stage, where “the agendas are defined according to social, political or economic demands, on which different socioeconomic interests act” (Giusto & Ribeiro, 2019, p. 2), began between 2007 and 2010, in the second stage of the Management Shock², which the aim was to improve the quality and reduce costs of public services through the reorganization of the institutional arrangement and management model (Duarte et al., 2016). During this period, was adopted the contractualization of results, having an agreement on objects and goals between the government and the intermediary and local bodies, and the control of results (Duarte et al., 2016).

In addition to the contractualization of results, there was a need for real-time monitoring of schools, so that it was possible to rationalize expenses and improve educational results, because the Minas Gerais Public Education Assessment System (SIMAVE³) repeatedly indicated student performance below expectations. Furthermore, it was necessary to evaluate the actions and results of government interventions more effectively. Added to this is the introduction of Information and Communication Technologies (ICT), with initiatives from the Federal

² The first stage was from 2003 to 2006 and aimed to achieve fiscal consolidation.

³ Since 2015 it has been called the System of Assessment and Equity in Education of Minas Gerais (SIMAVE).

Government, with the National Educational Technology Program (PROINFO Integrado⁴), and from Minas Gerais, with the Escolas em Rede Project, which distributed computers and internet to schools (Balduti, 2017).

It is in this context that the outline of the SIMADE public policy emerges, with the aim to promote improvements in income and performance, reduce expenses on schools, and use the technological benefits offered by ICT, such as real-time monitoring and data visualization in several layouts, to institute a policy of agreement on results in which the principal is responsible for “accounting for educational results, making him/her the main responsible for the effective achievement of goals and objects, almost always hierarchically defined” (Duarte et al., 2016, p. 202).

In the Formulation stage, “which specifies the action plans, also characterized by debates, articulation of interests and decision-making” (Giusto & Ribeiro, 2019, p. 2), SIMADE was established based on Resolution SEE no. 1,180 (Minas Gerais, 2008), which determined the design of this public policy. The process execution was decisive, and defined the degree of centralization/decentralization, inspection mechanisms, guidelines and guided the implementation, in addition to the performance of middle-level bureaucrats, making them responsible for the insertion and updating of data from their schools.

Resolution SEE No. 1,180 (Minas Gerais, 2008, p. 1) enacts regarding the interpretation of the principal's role in article 6:

It is the School Principal's responsibility to enter data into SIMADE, ensure its reliability and its periodic updating.

Sole paragraph. Changing SIMADE data can only be done by an employee that has express permission from the School Principal.

The resolution allowed the principal to act as a user of the system, i.e., the street-level bureaucrat (those who act directly in contact with users of public services, affecting performance, quality and access to goods and services promoted by the government), or as a BME. As found in the research by Fonseca (2014), Tomaz (2015) and Balduti (2017), in the school context, few principals (about 20%) claim to exercise this dual role, since because of the daily tasks and the complexity of the role of principal, the system user is the school secretary and the other members of the school secretary staff. Therefore, these professionals are the street-level bureaucrats in the context of SIMADE.

The next stage, Implementation, is characterized as “the moment when the guidelines are effectively put into practice with the target audience” (Giusto & Ribeiro, 2019, p. 2). Traditionally, studies on the implementation of public policies tended to focus on the performance of activities established from the top down, as pointed out by Lotta (2015) and Oliveira (2019), in an

⁴ It expanded some guidelines of the National Program of Informatics in Education (PROINFO), seeking the universalization of educational informatics through access to computers and computer classrooms.

analytical perspective referred to as *policy centered*. The implementation object was to achieve goals previously set in the policy formulation process, being considered as prescriptive and hierarchical, as in the *top-down* model, in which actors were subjected to decision makers and there was an automatic translation between decision and action. These could also be descriptive and flexible, as in the *bottom-up* model, which emerged in the following decades, and values the observation of the policies effectiveness and evaluation, as well as the factors that cause failures in the implementation process. When analyzing the implementation, in both cases there was a gap between the formulation and the execution, separating administrators and executors, making the existence of different forms of implementation to be considered having different motivations and degrees of autonomy among the implementers (Muylaert, 2019; Oliveira, 2019).

It breaks, therefore, with the linear perspective in which public policies are implemented as elaborated and described in the formulation, since in the implementation there is a process of re-readings, reinterpretations, changes of meanings and translations by the actors when placing the public policy in practice. This public policy perspective values negotiation and action and is considered a second generation of implementation studies.

Recent studies (Lotta, 2015; Oliveira, 2019; Muylaert, 2019), summarizing the contributions of previous analysis models, understand the implementation process as central and continuous, in which one of the basic elements of analysis is the discretion of the implementing agents and of middle-level bureaucrats. In this sense, discretion “becomes focused on an action of viewing the implementation as a set of tensions, interactions, and strategies which involve decision-making” (Oliveira, 2019, p. 3).

The implementation of SIMADE, based on the top-down model, began in January 2008, with the participation of 56 instructors and 9 analysts⁵ subordinated to CAEd/UFJF, which in partnership with SEE/MG coordinated and monitored the entire implementation in the 3,920 state schools⁶. From March 2010, having the system already with its online version⁷, From March 2010, having the system already with its online version, the implementation was conducted by technicians from the 43⁸ Regional Education Superintendencies (SREs), although support⁹ for system users was still conducted by the CAEd (Remote Learning Support Center). In October 2016, SIMADE started to be managed only by SEE/MG, although the CAEd was still responsible for supporting the users of the system until December of the same year. In January 2017, SIMADE became the exclusive responsibility of SEE/MG and service to users began to be conducted by the SREs teams (Balduti, 2017).

The evaluation stage, “which uses some measurement instrument to verify the results obtained, comparing them with the formulated specifications and the planned objects” (Giusto & Ribeiro,

⁵ Professionals responsible for implementation in the six regions of Minas Gerais.

⁶ Total number of state schools in 2008.

⁷ From 2008 to mid-2010 the system was installed on the computer(s).

⁸ There are currently 47 SREs.

⁹ Telephone, in person and email support.

2019, p. 2), has been conducted through mixed (Fonseca, 2014; Tomaz, 2015; Balduti, 2017) or qualitative (Salgado, 2014) research. Such researches indicate that there is little detail regarding the policy formulation, leaving only what is prescribed by Resolution 1,180 (Minas Gerais, 2008), and that the implementation does not present a dialogue with the demands of the schools and professionals heading the management since it used the *top-down* model. Furthermore, the evaluation focuses on the effects of the system, without associating them with a stage analysis of the public policy cycle and implementing bureaucrats at distinct levels involved in the development, access, and use of the system. Therefore, there is a need to introduce the role of implementing bureaucrats and their discretion in SIMADE public policy into the analytical agenda.

Mid-Level Bureaucrats: School Principals in the State of Minas Gerais

In recent decades, the public policy literature has made important advances in understanding the role of bureaucrats in the policymaking process. However, the studies focused especially on high-level and street-level bureaucrats, in which these are the highlights of the field, disregarding the relevance of middle-level bureaucrats in different instances of the government and of the public and private management (Cavalcante et al., 2017; Mota et al., 2019).

Since they occupy an intermediate position, middle-level bureaucrats are in the conceptual “limbo” between the *top-down* and *bottom-up* models, as they are situated between the top and the bottom (Oliveira & Abrucio, 2018), due to the variety and heterogeneity of actors in different sector and institutional contexts, in addition to the specifics of the positions (Pires, 2015). Middle-level bureaucrats are difficult to understand because they are defined in relation to the position occupied in each policy or in each government structure, to the detriment of specific, proper, and equal characteristics in all public agencies and policies (Lotta et al., 2014).

However, Lotta et al. (2014) and Oliveira (2019), note in an extensive review of national and international publications that the literature has made some progress. Mention can be made, among these, to the perception of similarities and differences between middle-level bureaucrats, since each context involves specific realities that determine who they are and what they do.

The theoretical framework on implementing bureaucrats in studies on implementation coming from Political Science and recently appropriated in the field of education (Lotta, 2014; Mota et al., 2019) comprises the school principal — an employee linked to a federal education unit, state or municipal, occupying a commissioned position — such as BME. As much as the school principal has daily contact with the students and/or their family/guardians (who are the beneficiaries of the educational service) through their tasks, the set of their attributions are that of professionals who work at the intermediate level of the bureaucratic hierarchy, i.e., the principal's tasks make him a link between the upper level and the street level. Thus, based on

the literature on implementing agents (Lotta et al., 2014; Cavalcante & Lotta, 2015; Muylaert, 2019), the school principal is considered a BME.

According to Lotta et al. (2014, p. 465), middle-level bureaucrats are “actors who play a management role and intermediate direction (as managers, principals, coordinators, or supervisors) in public and private bureaucracies” in the processes of public policy implementation. BMEs act to transform political strategies into operational decisions and, to this end, establish horizontal (with colleagues) and vertical connections (with subordinates and superiors), also helping to understand how public administration works (Cavalcante et al., 2017).

In the SIMADE public policy, middle-level bureaucrats are the school principals responsible for the maintenance and periodic updating of the system, complying with SEE/MG's designs, as well as coordinating the performance of school secretaries in the system use. In Minas Gerais, the position of school principal is held by public employees — contracted or permanent — who have participated in an Occupational Certification process¹⁰. This process aims to select education professionals who have technical knowledge, measured through tests, and who are also chosen by the school community via election to assume the position of principal of state schools (Fonseca, 2014; Tomaz, 2015). In this way, when invested in a public office, the principal exercises an administrative role that links him to the authority that appointed him/her in terms of the school he/she directs and represents, creating a link between the State and the school community (Muylaert, 2019). Thus, the principal connects to the upper echelon, SEE/MG, and to the school and to all the actors that compose it.

In the daily life of schools, principals as BME play a dual role: technical-managerial and technical-political. In a technical-managerial role, “the actions concern how these bureaucrats translate strategic determinations into everyday actions in organizations, building standards of procedures and managing the services, therefore, the implementing bureaucrats” (Lotta et al., 2014, p. 472). The second role, technical-political, concerns “how these actors build negotiations and bargains related to the processes in which they are involved and their relationship with the highest level” (Lotta et al., 2014, p. 473). However, this role depends directly on the position of the BME in the chain of actors, between formulation and implementation.

Therefore, the actions of agents and the relationships they establish make it possible to understand the processes of implementation of public policies. According to Lotta et al. (2014), the absence in the literature on middle-level bureaucrats deserves greater attention since it offers important analytical and interpretive gains, in addition to understanding the effects on implementation and its network of interactions and processes.

Methodological paths

¹⁰ It evaluates, through tests, the pedagogical and technical knowledge and the necessary competences for the position of school principal.

This article is the result of research conducted in the Doctor's Degree in Education of the Postgraduate Program at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio). Having as its object of study SIMADE and the discretion of school principals, this research adopted a mixed approach, combining collection techniques and qualitative and quantitative analysis.

To this end, in 2019, an online questionnaire was applied to 3,444 principals of schools that offer regular education and serve 2,137,891 students from the state public school of Minas Gerais. The document consisted of 38 questions that dealt with the respondent's profile, access, and use of SIMADE. As this is a research conducted with human beings, both SEE/MG and each school principal virtually signed the Free and Informed Consent Term, as requested by the PUC-Rio Ethics Committee, to which this work was submitted and approved. In order to preserve the anonymity of the respondents, fictitious names were assigned to each response from the principals.

The 586 questionnaires that were answered by the school principals were analyzed using the SPSS software (version 18), which made it possible to trace the profile of the respondents and the characteristics of access and use of SIMADE, as well as to identify the discretion exercised by middle-level bureaucrats.

Then, the open question "What is your responsibility in relation to SIMADE?" was selected, which allowed a space for less guided expression of the respondent on the subject to understand the principal's discretion. The 586 responses were compiled from content analysis which, according to Carlomagno and Rocha (2016, p. 175), "is intended to classify and categorize any type of content, reducing its characteristics to key elements, so that they are comparable to a number of other elements". For the treatment of data, the categorical analysis technique was based on differentiating the nuclei of meaning that constitute the communication to later regroup them in categories. Thus, two categories are founded: administrative, composed of 525 schools; and pedagogical, composed of 27 schools.

BME Characteristics

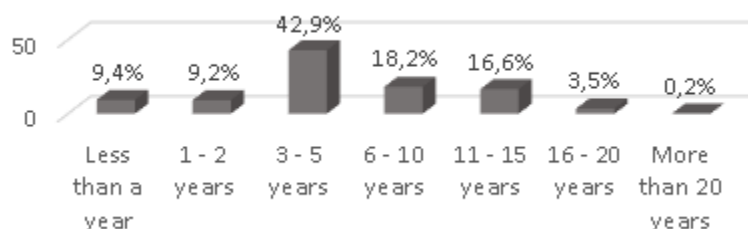
In the 586 schools, 93.3% of respondents hold the role of school principal and only 6.7% hold the role of deputy principal, predominantly women (72.1%) who ascended to the role through a selection process and election (94.5%). Regarding color, there is a predominance of white (50.5%), followed by brown (41.1%), a result similar to that observed by Soares and Teixeira (2006). The average age is 48 years old, although the predominant age groups are from 41 to 50 years old (39.9%) and from 51 to 60 years old (38.6%), like the results from studies by Tomaz (2015) and Balduti (2017).

Most of the principals (96.7%) have already worked as regents in basic education, with an average of 15 years, while as a school principal and performing the management of the current school (where they participate in the survey) the average is less of 2 years. As each term lasts

four years, these principals and deputy principals are in their first term, as illustrated in the following chart:

Graph 1

Period as a principal in this school¹¹



Source: Lima (2019, p. 85).

The graph also indicates that there is significant shift in the position, as only 38.5% of principals have been principals for more than 6 years. This result is associated with the legislation of the state of Minas Gerais, which until 2018 allowed only one consecutive re-election to the position of principal. According to Lima (2019), ascension to the position by selection process and election allows for a more consistent choice when selecting the best candidates, using technical competence and the appreciation of the school community.

Regarding schooling, managers are mostly graduated in Pedagogy and Mathematics, respectively 8% and 6%, Biology, Literature and History, around 5% each¹². Among the principals, as already observed in numerous surveys (Tomaz, 2015; Balduti, 2017), those with postgraduate degrees predominate, around 70%, and 6% have completed the School Management course, 5.4% the Supervision course, 4% the mathematics course, 3.7% the Psychopedagogy course and 3.1% the School Inspection course.

About 60% of the principals consider that they have a good working relationship with the school secretaries, which is fundamental for the functioning of the school unit in the administrative scope and for the use of SIMADE. Lima (2019) notes that the perception of the environment is significantly associated with a strong alignment of school actors in relation to the mission and vision they share about the teaching unit.

Among the 586 principals, 65% claim to dedicate between 1 to 5 hours a week to external relations, which include meetings and/or contact with the Regional Education Superintendence (SRE), which passes on the SEE/MG guidelines. In other words, it is easier to be complacent with the rules and norms coming from high-level bureaucrats (Fuster, 2016), sometimes in an innovative and sometimes conservative way (Oliveira, 2019), i.e., with a flexible margin of discretion.

¹¹ 538 principals have answered this question.

¹² 253 principals have answered this question.

These results also highlight the relational dimension of the work of the BME, which, as they are at the intermediate level with horizontal and vertical work relationships, have information that regulates their relationships, in addition to maintaining the frequent flow of school monitoring (Cavalcante et al., 2017).

They build (or produce) their position through the management of these information flows — they demand with more or less intensity, decide what “goes up” and what “does not go up”, [...], decide how to balance the tensions between the various actors with whom they interact, they manage the necessary measures and referrals. (Pires, 2015, p. 217)

Thus, it is middle-level bureaucrats who define the functioning of the school, articulating horizontal and vertical relationships, building consensus among actors to achieve their goals. Therefore, they are an intermediary agent between the upper level and the street-level bureaucrats.

The role of school principals in the implementation of SIMADE

According to Mota et al. (2019), the implementation of public policies should be considered to observe the performance of the actors, as well as the potential for adjustments that this stage represents in relation to the formulation of the policy. Regarding the use of SIMADE, specifically related to the frequency of access, only 7.84% of the principals said they do not use the system and approximately 20% report that the use occurs through the secretariat employees, i.e., they do not access it directly. About 70% of principals frequently access the system.

The formulation of the SIMADE public policy leaves a space for decision for the principal to act as a user or as an observer of the information entry, since it does not explain what is expected from SIMADE users regarding the system and the data access and use, broadening the exercise of discretion. The difference between observers and users is the attendance to a training course on SIMADE, which can foster understanding on the system and its importance for school management. Furthermore, the observer principals work in schools that offer initial grades (82) or complete elementary education (93); while the user principals' schools serve elementary school (355) or high school (43). Although the frequency of use of the system depends on the way principals interpret and understand their action in the school, which is difficult to capture by the survey, these responses seem to indicate that the training associated with the steps taken can influence the use of the system.

Middle-level bureaucrats manage the gap in the rule and use different practices with adaptations and translations of regulations to achieve their results (Lotta, 2014). Therefore, there is a recontextualization of the original discourse to a context in which it is modified, condensed and re-elaborated (Oliveira, 2019) by about 30% of the principals, who understand that access to SIMADE is not their task.

This result is consistent with the findings of Cavalcante and Lotta (2015) and Cavalcante et al. (2017) that the environment in which the BME operates offers different forms of action and discretion in relation to public policy. The two forms of access — through the secretary and the school principal himself — respectively refer to: (i) the proximity of the principals to the street-level bureaucrats (in this case the school secretaries), since they are the users of SIMADE and the actors who maintain the dialogue with the beneficiaries of the policy (the students and/or parents or guardians) and are responsible for providing the principal with all the data necessary for the management of the school; (ii) when using the system and possibly understanding its data, the principal comes closer to the high-level bureaucrats because he/she is more capable to understand the political decisions emanated by the bureaucrats high-level, in addition to knowing and monitoring the data of his own school. It is worth mentioning, as observed by Cavalcante et al. (2017), that the interaction between internal actors (principals and school secretaries) and external actors (SEE/MG and SRE), the technical nature of decisions and the very degree of discretion, can bring about different outlines to access to the system and to the public administration.

This result is consistent with the answers given by the principals about their responsibility in relation to the use of SIMADE¹³. Some answers were selected to illustrate the principals' perception:

(i) answer group 1 – to keep updated and correct data for a true and concrete analysis (Margarida, 44, principal); to designate and supervise the responsible secretary and carry out some more specific actions when necessary (Jasmim, 40, principal); to monitor the entry of reliable data and its constant updating (João, 37, principal); to supervise, the service is performed by the secretariat (José, 47, principal); to enforce all actions inherent to it, inspecting access by the secretary and punctuality in providing data (Rosa, 33, principal); to supervise, the service is performed by the secretariat. (Amarílis, 42, principal)

(ii) answer group 2 – to weekly open together with the pedagogical staff to check attendance, evasion, pedagogical performance (Azaleia, 51, principal); to monitor evasion, dropout and student performance rates and develop plans of goals and actions for intervention with the support of the school supervisor (Camélia, 45, principal); to verify, together with the pedagogical team, the strategies that should be elaborated for better student performance and to reduce school evasion. (Paulo, 49, principal)

In the first group, composed of 525 principals, a supervisory role is assumed, supervising the execution of tasks, aiming only at the fulfillment of the activities that must be conducted in SIMADE. As noted by Muylaert (2019), the principal plays a well-defined role in most public policies, which is the task of coordination. In this perspective, as highlighted by Salgado (2014) and Tomaz (2015), there is a predominance of the technical use of the system, i.e., for the purpose

¹³ The question "What is your responsibility in relation to SIMADE?" was answered by 552 principals.

of complying with Resolution 1,180 (Minas Gerais, 2008), which aims to control the school unit, in addition to contributing to the implementation of school services in a standardized way. In particular, this type of perception of responsibility proposes a new form of regulation — centered on the definition and a priori control of results, whose aim is to ensure coherence, balance, and identical reproduction of the use of SIMADE by all schools, through practices that allow the control and recording of what happens in the teaching units.

In the second group, formed by 24 managers, the use of the system focuses on the information that can be extracted and can contribute to the improvement of student learning and to the quality of education. The student seems to be the focus and the data extracted can facilitate monitoring, enabling monitoring of student and school performance, which can ensure data that allow diagnosis and propose strategies for improving the quality of education.

In this context, the principal, through the system data, can promote the necessary conditions for the implementation of improvements in the school, particularly those of a pedagogical nature. It seems to us that the principals of group 2, unlike those of group 1, produce a new rule that is not limited to the systematic and full compliance with Resolution 1,180 (Minas Gerais, 2008) when using the system to monitor and make decisions within schools.

Although these two categories are already widely discussed and verified in the literature that investigates the daily life of school management (Werle & Audino, 2015; Leal & Novaes, 2018) and how these are identified as focused on administrative matters — accountability, budget collection, organization of timetables and financial — and/or pedagogical — control — curriculum, assessment, teaching methodology and performance analysis — the study in question indicates that there is a lack of clarity in the object of formulating the policy, which may be causing two different forms of implementation and consequently two uses of the system from the discretion of school principals.

On the one hand, the aim is to achieve greater compliance with educational standards; and, on the other hand, the search for better performance and better student performance, which appears to indicate that there is appreciation of a pedagogical management of the school based on data provided by the system. “Although there are rules and norms that shape some standards of action, these bureaucrats still have the autonomy to decide how to apply them and insert them into implementation practices” (Lotta, 2015, p. 46). In this way, SIMADE is understood only as a standardization and control instrument, to the detriment of being a pedagogical tool that influences educational efficiency and school management.

This result corroborates the statement by Lotta et al. (2014), because the diversity of the implementation context can cause the same regulation to produce entirely different results in different realities, even though they are predominantly schools that serve the final years of elementary and high school (60%). That is, the school context can be affected by the type of system use, although the actions, values, and references of the principals also influence and transform the way the policy was conceived.

In addition, both access and perception of the principal's responsibility in relation to the use of SIMADE are related to the ability to influence decisions, as pointed out by Cavalcante et al. (2017). These variables materialize in the SIMADE public policy, in the verification of schools in which the principals claim that the use of SIMADE is compatible with the way secretaries perform it, i.e., in 525 teaching units, principals and secretaries use the system in an administrative way. According to Lima (2019), due to the duties of the secretary's position focused on the bookkeeping, registration and organization of information, these professionals are not dedicated to the pedagogical dimension and, therefore, do not envision SIMADE as pedagogical. It is hypothesized that, as 61.5% of principals are in their first term or at the beginning of their second, they may be using the system according to the vision of the school secretaries, which is in line with the purposes of SEE/MG materialized in Resolution 1,180 (Minas General, 2008).

In these cases, there seems to be considerable alignment between principals and secretaries, who share perceptions about the system in a productive collaborative relationship that can have a positive impact on the school atmosphere, as pointed out by 60% of principals, and on the use of the system and its data. After all, the fact that the alignments between principals and secretaries are aimed at the administrative aspect indicates that the regulation proposed by the State since the Management Shock policy (Duarte et al., 2016), as well as the accountability of principals for student results (Drabach & Souza, 2014), is still very present.

Although the pedagogical use of SIMADE may be a consequence of other factors that have a much more significant weight in education, such as, for example, the social origin of students and the didactic-pedagogical actions of the teacher (Soares & Teixeira, 2006), the following hypothesis is recorded here for future studies: the 24 schools can aim to ensure educational quality, via increased student performance and intra-school equity, adopting actions based on evidence provided by SIMADE, since "the same set of school practices can act, concomitantly increasing the average performance of schools and promoting equity among students" (Lima, 2019).

The result of the 24 schools reflects, in opposition to what was observed by Bonelli et al. (2019) in the application of Agency Theory¹⁴, in a synchronicity between the use of the system by principals and secretaries that can generate informational strategies, articulating certain administrative and/or pedagogical information from the perspective of each actor that allow raising educational evidence about the teaching unit and a meaningful use of system data for the school context. As noted by Giusto and Ribeiro (2019), when analyzing street-level bureaucrats, there is, as for BME, "a freedom of action, especially when faced with ambiguous and contradictory rules" (Giusto & Ribeiro, 2019, p. 4), which allows secretaries to make their own interpretation of public policy based on their previous experience, something that can be considered when providing information to the BME. It seems to us that in these schools, even

¹⁴ At the various hierarchical levels, relationships between high and middle-level bureaucrats and their subordinates can be identified, in which informational problems can occur.

with divergent views on the system, the performance of the school secretaries and the BME is articulated and complemented in favor of the students' results.

Therefore, school principals are responsible for coordinating the implementation of the SIMADE public policy and, at times, articulate and build consensus among the different actors involved, as in schools where the use of the system is administrative or pedagogical. Due to their intermediate position in the organizational structure, principals make decisions to be put into action, but they also exercise discretion, which may aim to improve quality and equity in public schools in the state of Minas Gerais.

Conclusion and final remarks

The School Administration System of Minas Gerais (SIMADE) allows middle-level bureaucrats to have a significant margin of discretion in accessing and using the system, which reverberates in new directions and meanings for public policy and consequently for its implementation. In addition, the formulation of this policy structured in a prescriptive and hierarchical manner is far from implementation, since the former did not explain much about access and mainly about the use of the system, allowing a great margin of discretion for the principals and even the no access to the system. Both in terms of access and usage, the BME sometimes approaches the top level, having a pedagogical use that allows it to monitor the performance of students and the school; sometimes he/she approaches street-level bureaucrats, being a supervisor of the actions developed in the system.

Furthermore, in the form of implementation aimed at the administrative use of SIMADE, based on Resolution 1180/2008 (Minas Gerais, 2008), the BMEs are in line with the statement provided by the highest level in a managerial perspective, which values control, standardization, efficiency in the public service. On the other hand, there is the production of a new rule in the implementation focused on a pedagogical perspective that is not limited to the systematic and full compliance with the aforementioned resolution but uses SIMADE data to monitor and make decisions within schools. Since it was instituted under the Management Shock Policy, SIMADE contributes to a larger public policy, which is educational, being a means to achieve certain educational purposes.

The limits of this study, which result from the methodological approach, circumscribe the starting points for future qualitative researches, with the possibility to investigate the use of administrative and pedagogical data from practices and profiles of the principal; organizational complexity of the school (secretaries and their interactions with management); stages and student profiles (socioeconomic level, income, etc.). Such studies can reveal technical, political, and managerial aspects established and carried out by high-level bureaucrats, in addition to promoting evidence on the need to train principals to use SIMADE.

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