



Monica Lemos

**CONCEPT FORMATION IN EDUCATIONAL
MANAGEMENT**

Instruments and voices in a creative chain of activities

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Instruments and voices in a creative chain of activities

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BOOKSⁱ

(Caetano Veloso, 1997)

You used to stumble clumsily over the stars

We almost didn't have books at home

And there was no bookshop in the city

But the books that entered in our lives

They are like radiation of a black body

Pointing towards the Universe expansion

Because the sentence, the concept, the plot, the verse

(And, undoubtedly, above all the verse)

It is what can throw worlds in the world.

You used to stumble clumsily over the stars

Unaware that the happiness and misfortune

Of this road that goes from nothing to nothing

It is the books and the moonlight against the culture.

Books are transcendent objects

But we can love them like tactile love

That we voted for cigarette packs

Tame them, grow them in aquariums,

On shelves, cages, in fires

Or throw them out of windows to

(Maybe that forbids us to throw ourselves)

Or what is much worse to hate them

We can simply write:

Fill many pages of empty words

And more confusion on the shelves.

You used to stumble clumsily over the stars

But to me you were the star among the stars.

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Abstract

The aim of this study is to analyze how a new concept in educational management is produced during a hired consulting for manager educators. The consulting is part of a chain of activities involving a Secretariat of Education, Boards of Education, and schools in the city of São Paulo, Brazil. This research has been carried out through a partnership between the Management in Creative Chains project (São Paulo-Brazil) and Concept Formation in the Wild (Helsinki-Finland). The importance of the research is related to the gap between educational management based on a business perspective and local school needs.

The majority of the data was collected from meetings held in the Secretariat of Education, in boards of education and in schools in the city of São Paulo. The main purpose of these meetings was to produce a new concept of educational management and develop instruments that materialize the concept produced in practice. Thus, the data consist of video- recorded meetings, video and audio-recorded interviews, field observations, and other mediating artifacts developed during the consulting for manager educators, which are analyzed through multiple complementary methods suited for discourse data. Key theoretical concepts in the analysis include sense, meaning, mediating instrument, multivoicedness, and the creative chain of activities.

The findings of this research will be reported in four articles tentatively titled as follows: 1. Concept formation in educational management: Through sense and meaning; 2. Multivoicedness in educational management; 3. The management plan as an instrument for the transformation of educational administration; and 4. The creative chain of activities in the process of educational management.

Keywords: concept formation, mediating instruments, multivoicedness, creative chain

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1 INTRODUCTION

This study focuses on the analysis of the process of concept formation in educational management and on the development of a creative chain of activities during a consulting project for manager educators led by Professor Fernanda Liberal, hired by a Secretariat of Education in São Paulo, Brazil. The Secretariat of Education is the organization in charge of establishing rules and regulations for education at the municipality¹ level. This Secretariat manages thirteen regional boards of education, which are in charge of disseminating the Secretariat's instructions as well as organizing educational programs for manager educators and teachers from 2,710 schools with over 900,000 students.²

The need for this study stems from a tension between the dominant business-oriented management model in growing need for dialogue and sensitivity to local needs.

According to Liberali (2012) the rationale for this project is that the lack of partnerships between managers on different levels was preventing, firstly, the implementation of the educators' development policies and, secondly, recognition of the importance of allowing teacher educators, pedagogical coordinators, principals, and teachers to make decisions about planning and implementing their work. My study analyzes the accomplishment of this project.

The aim of the study described in this research plan is to analyze how a new concept of educational management is produced in a consultancy for manager educators. These meetings were attended by pedagogical directors from the Secretariat, teacher educators from the Boards of Education, school principals, and school pedagogical coordinators. The meetings were organized to improve the quality of the management of the educational system.

The table below presents the four research questions and articles comprising the topics of my thesis.

¹ In 2013 there were about 11,000,000 people living in the city, which is considered the sixth most populous in the world.

² Based on

<http://www.portalsme.prefeitura.sp.gov.br/AnonimoSistema/BuscaEscola.aspx?source=/AnonimoSistema/BuscaEscola.aspx>, accessed in March 2013.

Table 1. Scientific article titles and research questions

SCIENTIFIC ARTICLE TITLE	RESEARCH QUESTION
1. Concept formation in educational management: Through sense and meaning	What is the nature of the interplay between personal senses and societal meanings in the process of concept formation in educational management?
2. The multivoiced construction of new instruments for educational management	How are new instruments of educational management produced in multivoiced encounters?
3. The local dynamics of educational transformation: Putting the new management concept into practice in a community	How is the new concept of educational management put into practice in a local school and its community?
4. The creative chain of activities in the process of educational management	What makes the chain creative? What makes the chain move?

The questions above allow investigating how the concept of management is produced throughout a consultancy to manager educators and increase the understanding of how the management expands throughout the Secretariat of Education, the Boards of Education and the schools.

The study starts with a review of the literature on educational management to clarify the pathways of educational management from different perspectives. After this, I give a historical perspective of educational management in the city of São Paulo. Then I introduce the theoretical framework, divided into sense, meaning, and concept formation; mediating instruments; multivoicedness; and the creative chain. By discussing these topics I depict the theoretical basis for the work. After that, I present the methodology by restating the research questions, describing the research context, discussing the interventionist methodology which permeates the whole study; and by overviewing the data and methods of analysis. Finally, I describe the four articles that comprise this study, as well as its timetable and the ethical issues that concern the work.

2 REVIEW OF THE LITERATURE ON EDUCATIONAL MANAGEMENT

For a long period, educational management has been understood as a tool or a technique to organize school work (Souza, 2006). Kumpulainen et al. (2010) also point out that traditionally, educational management was associated with school administration, whereas today Bush (2011) states that *educational management is a field of study and practice concerned with the operation of educational organizations* (Bush 2011, 1). According to Bush (2011, 14), *educational management as a field of study and practice was derived from management principles first applied to industry and commerce mainly in the United States*. It was very much influenced by the work of Taylor (1947) and the scientific management perspective in which individuals' actions were to be adjusted to be like new, efficient machines (Hoy, 2013). Other influences were Fayol (1916) and the general principles of management: planning, organizing, commanding, coordinating, and controlling as well, as Weber (1945) on bureaucracy.

From a North American perspective, Hoy (2013, 3) states that the systematic study of educational administration is as new as the modern school (Hoy 2013, 2). He defines administration as both the art and the science of applying knowledge to administrative organizational problems (Hoy 2013, 8). To provide general explanations to be used to guide research and practice, the author discusses the role of educational administration as a science. From the author's point of view, science should be seen as a dynamic process of development through experimentation and observation.

In contrast, Hartley (1999) and Hallinger (2005) point out the changes in public management and their impacts on the adoption of flexible model production in the educational field. They replace the Taylor/Ford production model by implementing a more agile and flexible one in order to meet current market demands and to focus on customer service. They also show that their new model has been transformed from a bureaucratic model to a bureaucratic flexibility model.

Bearing educational management in mind, Bush (2011) proposes the following models:

- Bureaucratic model – A model in which the educational system is centralized at a higher managerial level, which means that decisions are made by the top level, while the bottom level makes the directives happen. It is connected to centralized systems that do not have a succession process.

- Flexible model – Decentralization and autonomy in different spheres of education and the educational system. The individual takes more control.
- Market mechanism model – *Students and parents as customers choosing from a range of providers* (Bush 2011, 14).

For Aubrey, Godfrey and Harris (2013, 4), on the other hand, Taylor's, Fayol's, and Weber's perspectives might have been *effective for an economy premised on industrial production, but are not well suited to a more knowledge-oriented economy*.

From a democratic perspective, the Basis and Guidelines for Brazilian Education (1996) points in its 14th and 15th articles outlines the directives concerning management. According to these articles, teaching systems are to define their regulations on democratic management in the basic public education system according to its particularities and the following two principles:

The participation of educational professionals in the preparation of the school pedagogical project. The school pedagogical project is a document that defines schools' mission, principals and goals;

Local and school community participation in school board meetings or equivalent. In addition, they recommend that teaching systems make sure that public basic education school units will integrate progressive levels of pedagogical and administrative autonomy with financial management, according to public financial rights regulation.

Importantly, although the Brazilian Guidelines describe management as democratic and autonomous, they do not state the manner in which educational units are going to develop it. For this reason, quality in the student learning process has been recently adopted as a basis of educational management in Brazil (Luck, 2009; 2010). However, it is not possible to determine the meaning of quality here; most of the time quality is related to the results that students obtain from evaluations and assessments.

According to Sahlberg (2010), regarding educational quality as measurable by tests that are related to ranking and awards does not contribute to real school improvement. The author claims that decisions made together with school participants, including students and parents, in the discussion of institutional goals, combined with students' results on tests, external and internal evaluations, parents' comments, and school self-evaluation, provides better school development and consequently improvement in the results.

The limitations of the studies mentioned above rest on the fact that educational management, even though it is organized as a field of study, primarily keeps its roots in industrial management, which generates the contradiction of working with numeric goals in opposition to people's needs in the educational

systems. Although these studies show the relevant background of educational management, they do not mention the importance of considering management organized by activities. Educational contexts can be transformed by considering the organization of activities if we identify common objects of activity and transform their possible contradictions as a movement of expansion.

Although these studies give a relevant overview of the educational management discussion, they do not mention the impact of this discussion on those involved in school management, the schools's movement in relation to its communities, nor the possible changes for the teacher educational chain of activities.

3 THE HISTORY OF EDUCATIONAL MANAGEMENT IN SÃO PAULO

The main objective of this section is to briefly describe the history of public education in São Paulo, Brazil in order to understand how educational management is organized in the city and what generates the need for concept formation in educational management.

According to the Memorial of Municipal Education webpage, public education in the city started in 1935 with Children's Clubs. According to Faria (1999), Children's Clubs were created by the Brazilian poet and educator Mário de Andrade, who was responsible for the city of São Paulo Department of Culture from 1935 to 1938. These spaces were considered the first public spaces for education in the whole country, although they were non-scholarly spaces. Children from three to twelve years old were able to go to the Children's Club in order to practice sport and be involved in artistic tasks.



Figure 1. Children's Club 8, founded 1/25/1949

In 1956, Juscelino Kubitschek became the president of Brazil; his management was described in the slogan *fifty years in five*, which provoked Brazilian industrial growth. In this period the municipal primary education was created. For this reason, during his government, the number of children sent to informal educa-

tion, Children's Clubs, decreased. The secondary school, called the gymnasium, had an admission test. By this time, school was offered to all Brazilian citizens; however, only literate people were considered citizens.



Figure 2. Municipal school in the fifties

From 1964 to 1985, the Brazilian political situation changed due to the military government. According to Godoy (2011), the main objective for education in the country was a more cohesive and uniform primary educational system so that people would be able to read and follow the regulations established by the military government. In 1971 the division into primary and secondary education was abolished, and students were able to finish their basic education in eight years. Godoy (2011) also points out that this perspective replaced pedagogical issues with administrative issues due to the creation of a system that received such a diversely educated public. This diversity was generated by the opening of public school, which meant that school was accessible by everyone, although it was still considered a machine to transmit the military dominant position of the state.

At the end of the eighties, Paulo Freire, a well-known Brazilian socialist pedagogue and one of the originators of popular education in Latin America (Freire, 1998), became the Secretary of Education in the city. This was a remarkable event for the city for two reasons: Firstly, he represented the first free

chosen appointment made by a major who was elected by the population; Secondly, but not less important, Freire was one of the most recognized pedagogues connected to progressive causes, such as Critical Pedagogy. His biggest challenge was *teaching for liberty* in a contemporary metropolis.

For Freire (1998), *teaching for liberty* meant to take key concepts developed by him as an educator to the municipal educational management. The concepts included autonomy, dialogue with the educational system, dialogue within the school, and school dialogue with the community, which meant the school in the world and the world in the school. Finally, when referring to the quality of education, Freire pointed out that the administration in which he took part *did not struggle for just any kind of quality, but for a certain type of quality of education that was democratic, popular, rigorous, serious, respectful, and affirming of a popular presence in the school, in the hope of making schools increasingly happier places to be* (Freire, 1998, 65).

In the nineties with the change of the political party which ran the city, policies changed as well. The party that Freire was a part of, the most important left movement at that time, was replaced by a right wing and conservative party. From the Freirean idea of quality of education as dialogue inside the school system, school, and in the community, educational management changed to a total quality management perspective. Quality became a way of looking at the school as a company and the community as clients who are supposed to receive an educational service based on evaluation results and indicators.

At that time, instead of investing in teaching education programs, investments went towards teaching recycling and for building schools quickly; consequently tin schools became very popular because they could be built fast and solved the issue of the lack of student places in the municipal schools.



Figure 3. A zinc school, popularly known as a tin school

Since the beginning of the 2000s, the public educational management scenario in São Paulo has not changed much. It still relies on results based on indicators for external and internal assessments. In order to keep students at school and reduce absenteeism, children receive school uniforms and school supplies every year, and milk every month. These policies were adopted in the nineties, became more widespread during the 2000s, and are still in place today.

The most important improvement was the creation of the Unified Educational Centre, which coordinates children's education, elementary education, high school, and education for youngsters and adults, as well as organizes sports and cultural events for students and the community. Another significant change was to the preparation of the Curricula Guidelines Program, the main objective of which is to standardize the city curricula and to establish expectations for each subject area in each year of elementary education.



Figure 4. Unified Educational Center (CEU) in the 2000s

The historical perspective reviewed above shows how the political movements influence the policies made to organize and implement educational management in the city. By focusing on results and the demands of evaluation, both teaching and the management of education were left behind, and the connection between school and community were forgotten. This generated the necessity of rethinking educational management towards a system in which the different contexts from the city educational system could work collectively in order to develop and implement activities in a chain so that the system, as well as the school actors, the school and its community, could all be connected.

During its history, educational management was transferred from people to proposals and lacked a dialogue. All of the contradictions produced throughout the historical pathway of educational management in the city generated the necessity of concept formation in educational management.

In the field of educational management, Bush (2011, p. 180) recalls Morgan (2007), who sees “*organizations as cultural phenomena that should lead to a different structure based on shared meanings.*” The organization of educational management must be thought of as something constituted and produced by people that have not just a working relationship, but the responsibility of promoting human development. Therefore, they ought to create and develop mediating artifacts for such development, which is strictly connected to cultural expansion.

4 THEORETICAL FRAMEWORK

In this section I discuss the following key concepts in this study:

- Sense, meaning and concept formation
- Mediating instruments
- Multivoicedness
- The creative chain

The interplay between personal sense and societal meaning with concept formation is a key point in this study, due to the necessity of concept formation in the different levels of education of this study. Another key concept is mediating instrument; the discussion on instruments is integrated in the cultural historical activity theoretical approach and allows us to understand how the concept of educational management formed is materialized on the different levels of the educational chain. The concept of the creative chain is defined by Liberali (2006; 2009) as the possibility of different intertwined activities having a shared object. The concept of the creative chain is important because it enables concept formation in educational management and instrument production, bearing in mind a possibly common motive in the different spheres of the city educational system: the Secretariat of education, the Board of Education, and the school.

4.1 The interplay of sense and meaning in the process of concept formation

Throughout this research plan educational management is discussed from an administrative perspective, from a perspective of the management of quality based on assessment results to a management perspective that considers school and its surroundings as a whole. Therefore, educational management is not a closed, pre-established concept, but is democratically organized and implemented altogether with educational professionals and community members as directed by the Basis and Guidelines for Brazilian Education (1996).

In order to answer the first question on the nature of the interplay between personal sense and societal meaning in the process of concept formation in educational management, we must progress from sense and meaning towards the process of concept formation.

Vygotsky (1934/2001) defines sense and meaning as a unit of analysis used to better understand the relationship between thought and language. Thus, ac-

According to him, the meaning of a word is the sum of all the psychological events related to that word in our consciousness as well as being a phenomenon of speech. Regarding the nature of meaning, Leontiev (1978) states that meanings lead a double life; according to him, they are produced by society and have their history in the development of language as it has historically expressed the development of science and ideological notions of society.

Sense and meaning are understood in this work as the interplay between inadequate and adequate ideas (Spinoza, 1677). By inadequate or confused ideas, Spinoza does not refer to mistaken ideas, but to ideas that are farther away from the object. According to Liberali (2009, p.102), *when in contact with human beings, inadequate ideas are combined to create ideas that, though still partial or inadequate, can share more aspects with infinite and adequate ideas.*

Regarding the senses, this study employs Leontiev (1978) view of personal sense. According to him, *personal sense is always a sense of something; it connects the subject with the reality of his or her own life* (Leontiev 1978, 19:20). In his point of view, *personal sense also creates the partiality of human consciousness.* By partially adequate ideas, Spinoza (1677) means an idea which, insofar as it is considered in itself *without relation to an object, has all the properties or intrinsic marks of a true idea* (Spinoza 1677, II DIV).

Moving from a philosophical perspective to an organizational one, Weick et al. (2005) put forth that *sense making is central because it is the primary site where meaning materializes* (Suctcliffe and Obstfeld 2005, 409). The authors refer to the materialization of meaning as an issue of language, speech, and communication that occurs in the flow of organizational circumstances present in written and spoken texts. Weick also refers to the collective mind, which focuses *on individuals and the collective, since only individuals can contribute to a collective mind, but a collective mind is distinct from an individual mind because it is inherent in the pattern of interrelated activities among many people* (Weick 2005, 262).

Weick et al. (2005) introduce the term equivocality, which means sharing an understanding of knowledge. Mills (2003, 44) states that the *equivocality of sense making gives primacy to the search for meaning as a way to deal with uncertainty when referring to organizations.*

Weick (2001, 269) cites to Walsh and Ungson (1991 p.60) in defining an organization as a network of intersubjectively shared meanings that are sustained through the development and use of a common language and everyday social interactions.

Vygotsky (2001) states that word meaning and concepts are forms of generalization. The word meaning is a phenomenon of thinking, and a concept is an act of thought.

As used in this study, meaning and concepts are at the same time interrelated and different processes. Sense and meaning as *a two-way movement, expand from the particular to the general, and from the general to concrete at the same time* (Engeström 1987, 238)

The concept of educational management is formed in a movement of personal sense making transformed in shared societal meaning, which becomes the concept later used to develop instruments and evaluate activities. Therefore, concepts are meaning operationalizers.

Moreover, according to Engeström and Sannino (2012), the contestation, negotiation, and blending involved in the process of concept formation, are also *loaded with affects, hopes, fears, values, and collective intentions* (Engeström; Sannino 2012, 201).

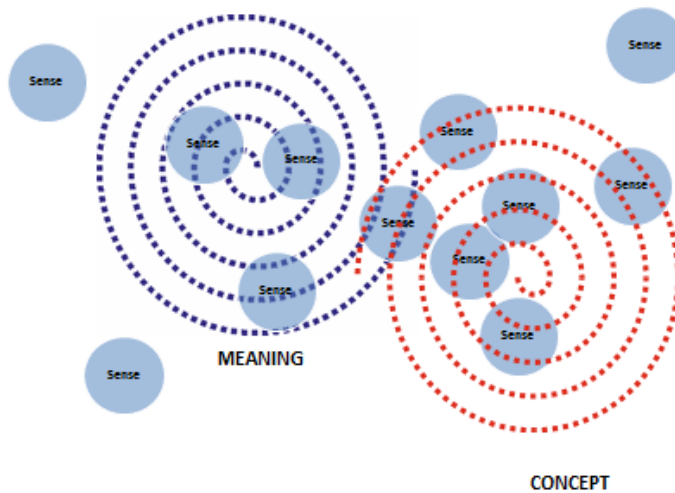


Figure 5. The interplay of sense, meaning, and concept³

Referring to Ach and Rimat’s research, Vygotsky (2001) explains concept formation as the fulfillment of a need that becomes meaningful in a goal-oriented activity. For Vygotsky (2003, 125) *the concept is taken in connection with a particular task or need that arises in thinking, in connection with understanding or communication and the fulfillment of a task or instruction that cannot be carried out without the formation of a concept.*

³ Figure created in this research plan to illustrate the interplay between sense, meaning, and concept.

Engeström (1987, 241:242) states that genuine concepts are a concrete abstraction since they reflect and reconstruct the systemic and interconnected nature of the object and are essentially temporal, historical, and developmental. The author also states that the task of genuine concept formation is to find the developmental ‘germ cell’, the initial generic abstraction of the totality under investigation and to develop it into its full concrete diversity (Engeström 1987, 242). Further, Engeström et al. (2005) expand the idea of concept as need fulfillment by stating that concepts are produced from its use. The authors give the examples of situational concepts, which guide to the question (What’s the concept?), and the visionary-historical concepts, which support thinking (Where is this concept going to take?). By answering both of these questions, we can go beyond the theory that embraces the concept and show their development through activities (Engeström 1987).

Engeström (2011b) understands concepts as emergent and contesting complex constructs that provoke serious practical consequences for working contexts. Further, his description of concept formation involves creative innovation and intentionality as fundamental aspects.

In this study the concept of educational management and its meanings develop and are kept or transformed according to manager educators and the communities.

The relation between a situational concept and a visionary-historical concept is established by the movement of the management concept definition and by its use, which is here investigated from instruments such as management plans.

4.2 The mediating instrument in the educational management process

This section is devoted to discussing the theory that supports the answers to the second and third research questions: *How are new instruments of educational management produced in multivoiced encounters? How is the new concept of educational management put into practice in a local school and its community?*

The understanding of the use and development of mediating instruments and their relation to educational management is essential to our reflection upon their impact on the social-cultural-historical activity movement at school. For this reason it is necessary to go back to Marx (1990), Wartofsky (1979), Vygotsky (1978), and Barkhust (2005) to obtain more sustainable support for the discussion.

According to Marx (1990), an instrument is defined as a thing or a complex of things that the worker interposes between himself and the object of his labor and which serves as a conductor, directing his activity onto the object (p. 285). In other words, Marx defines an instrument as the conductor of activity (p. 286).

Marx also considers bodily organs as man's instruments and Earth as his tool house (p. 285); thus Earth itself is considered a universal instrument in the development of mankind.

Wartofsky (1973, 200:201.) points out that the production of instruments is distinctively human in a way that it can promote the different ways in which men and animals develop activity. According to him, a *tool may be any artifact created for the purpose of the successful production or reproduction of a means of existence*. The author also makes a distinction between primary and secondary artifacts. According to him, primary artifacts are those directly used for production; secondary artifacts, though, are those developed to preserve and transmit acquired skills and modes of actions or the praxis by which the production is carried out (Wartofsky 1973, 202). Therefore, a tool can be understood in both ways, in its use and in its production.

The concept of artifact is also employed by Bakhurst (2005) in the article "Ilyenkov on Education". He establishes that activity is coordinated through objects and artifacts that are socially meaningful and which become part of the shared environment where children develop. In a broader view he poses that an artifact is not only made to physically rearrange a matter; we create an object that bears significance in virtue of the role it plays in our form of life.

Therefore, it is important to highlight Vygotsky's insertion of an instrument between the subject and object regarding the mediated activity. In contrast, two previous paradigms, behaviorism and cognitivism, did not consider the use of instruments. They focused on the human relation to the object or on biological development. Vygotsky points out that the use of instruments is essential for the development of higher psychological functions. According to him, *the use of signs leads humans to a specific structure of behavior that breaks away from biological development and creates new forms of a culturally based psychological process* (Vygotsky 1978, 40). Vygotsky also understood that signs can be psychological tools.

The mediating instrument presented in the methodology of this research, the *management plan*, comprises need and object. The need is what justifies the activities; it refers to the past, to the reasons for why activities should take place and why the objects are moving. The discussion of need and object as motive is very much present throughout the activity theory discussion (Vygotsky 2000, Leontiev 1977/1978; Engeström 1987).

The relation between need and object influenced the development of social-cultural-historical activity theory, which is the main basis for the educational management discussion in this study.

Uznadze (1966) and Leontiev (1978) define needs as the impulse for the subject to act. According to Uznadze (1966), needs can be substantial or functional, as something that needs to be satisfied, like hunger that can be satisfied by food

or fatigue by rest. Another type of need produced by man in social relations, by culture, is addressed in this work with the Vygostyan discussion of drama as an act of volition, a human decision about the conduction of one's historicity. Uznadze (1966) and Leontiev (1978) also agree that man is never in a state of immobility; on the contrary, human beings are in constant movement. Therefore, activity must not be seen only as a group of actions but also as the relations between subjects with needs that motivate and determine objects. In this case the object of activity is the key for such a movement. To Leontiev (1978), need is seen as a motivating object that transform needs into new ones.

The discussion on the need and object of activity is essential for understanding educational realities and developing instruments that organize activities based on needs and objects. When these instruments are taken into account in analyzing educational management, the concept of management is no longer in agreement with bureaucratic management.

4.3 Multivoicedness

Multivoicedness is one of the five principles of Cultural Historical Activity Theory (Engeström, 1987, 1999). Before going into the development of the definition of multivoicedness, first of all it is necessary to understand how voice is used.

In his studies of philosophy of the language, Bakhtin (2001) defines voice as always represented by an utterance which is always produced in a dialogue. Because an utterance is always produced from someone to someone else, it is called dialogicity. From this point of view all utterances are dialogical because they are always produced by someone to someone.

In order to understand the relation of multivoicedness in activity theory, it is necessary to understand other features related to the voice movement: monovoice, univoice, and multivoice. In a monovoiced dialogue the producer provides the utterances to someone else, in a speech, for example.

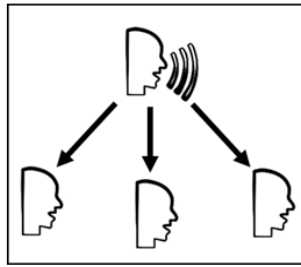


Figure 6. Monovoicedness

Understanding dialogue from a univoiced perspective implies that there is someone who produces the dialogue, distributes the voice but still controls the process of voice distribution in a certain event.

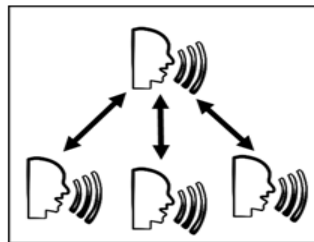


Figure 7. Univoicedness

In contrast, understanding dialogue from a multivoiced perspective implies that someone not only distributes the voice but is able to share the voice with participants in a certain activity.

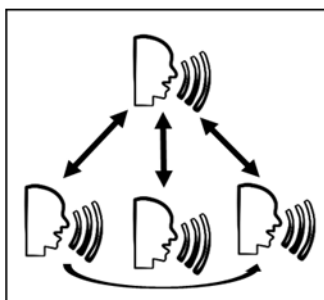


Figure 8. Multivoicedness

In the process of concept formation, as well as in the production of educational management and in the reorganization of activities, the different voices of the educational system must be considered. Agency is manifested through voice positioning, making the creative chain of activities move.

4.4 The creative chain of activities

Understanding the chain of activities is essential in this work, especially regarding the movement of activities within a system and in the three different instances, the Municipal Secretariat of Education, the Regional Board of education, and the schools, to be introduced in the methodological chapter.

According to Liberali (2009), a creative chain implies collective engagement in an activity that produces shared meanings, which will be then shared with other new partners through the senses that those participants from the initial activity bring to a new activity. Therefore, new meanings are produced that carry some aspects created in the first activity in a creative process.

As the creative chain is comprised of more than two activity systems, Liberali states that:

Similarly, some of the partners from the second activity, when engaged in a third activity, follow the same path. This Creative Chain presupposes that features of the totality can emerge in the production of new creative outcomes.

(Liberali 2009, 102)

In this perspective, it is also essential to bear in mind the production of an intentionally (partially) shared object through interconnected activities.

In this study the activities are related to different contexts within the educational system, which is connected through a network of activities. In the broader view of the study, the sharing perspective can be related to the concept of educational management in its formation and when it is put into practice. More specifically, the creative chain gives us the possibility of analysing the whole process of the organization of educational management in the educational system and the activities that specifically involve moments of studying, educating, and monitoring.

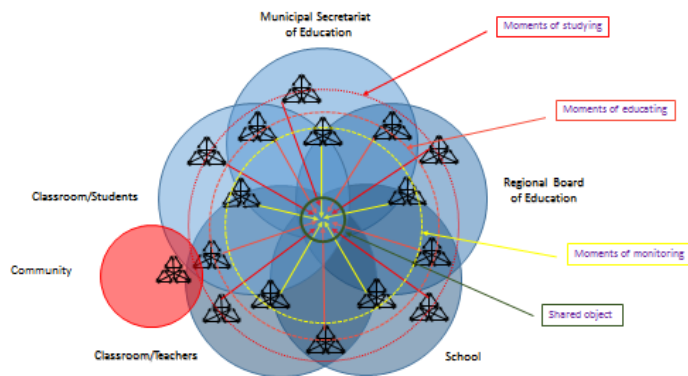


Figure 9. The creative chain of activities⁴

Sharing is a key word for the creative chain because it is possible for different participants to organize educational management activities, as activities should not be implemented by the higher hierarchical educational management level. They are supposed to be organized and developed by people who are part of different spheres of the system.

Therefore, the difference between the reproductive and the creative chain is essential to the movement of the chain. In a reproductive chain, activities are transposed from one sphere to the other, unlike a creative one in which participants transform the activities according to their need and the object, while retaining some aspects created in previous activities.

⁴ Figure 9 was created for this research plan in order to illustrate the creative chain of activities. I would like to thank Fernando Cunha for the technical support in designing the picture.

Agency is necessary in order to make the chain move creatively. Hays (1994 p.62) poses that agency explains the creation, recreation, and transformation of social structures. Agency is made possible by enabling the features of social structures at the same time as it is limited within the bounds of structural constraint. According to Hays, people become agents when they make choices that imply social transformational consequences, in other words, choice is used to explain agency; however, it is important to mention that choice is not connected to individualism, or subjectivity, but is related to social life.

Engeström (2008) argues that agency implies the overcoming of resistance. By relating educational management as an organizational field with agency, the author states that *employees' capacity to create organizational innovations is becoming a crucially important asset that gives a new dynamic content to notions of collaborative work and social capital* (Engeström 2008, 199).

As this work discusses the educational process of the manager educator, it is important to bear in mind the Freirian perspective of transforming oppressive conditions by relating what is done in the classrooms to what can be done outside schools to change the realities of our society (Freire, 1970). In this perspective the aims of the creative chain are the creative production of new cultural outcomes, with argumentation, or negotiation, as the tool in the production of meaning.

5 RESEARCH QUESTIONS

The goal of this study is to analyze how the concept of management was produced in meetings with directors, teacher educators, and pedagogical coordinators. I briefly outline the four questions of this research according to the four articles planned.

The first question, which corresponds to the first article of the study, is: What is the nature of the interplay between personal sense and societal meaning in the process of concept formation in educational management?

The manager educators hired the consulting project led by Professor Fernanda Liberali because the lack of partnerships between managers on different levels was preventing, firstly, the implementation of the educators' development policies and, secondly, recognition of the importance of allowing teacher educators, pedagogical coordinators, principals, and teachers to make decisions about planning and implementing their work.

First, based on the historical framework of activity theory, documents, scientific papers, and a biographical interview with two educational managers of the educational system will be used to create a timeline to investigate the need for educational management concept formation.

Then, to find which educational management concept is produced, we analyze three meetings with manager-educators in São Paulo, Brazil, in which the participants are involved in the movement of sense making, meaning sharing, and concept formation in educational management.

After working on the concept of educational management, a chain of activities will be planned in order to organize the management of the three different levels: the Municipal Secretariat of Education, the Regional Board of Education, and the school. The management plan will then be developed in the three spheres as a mediating artifact that guides the activities in three different instances: studying, educating, and monitoring.

We now present the second research question, which corresponds to the second article of the research: *How are the new instruments of educational management produced in multivoiced encounters?*

The importance of this topic lies in the necessity of organizing activities in a multivoiced process of the manager educators' development. A deeper look into organizational studies and an overview of activity theory focusing on multivoicedness are the theoretical bases that support finding an answer to this question.

An interventionist approach will be used regarding the organization and position of the voice to analyze the discourse organization present in the meetings

and its contribution to the production and evaluation of the instrument *management plan*. After discussing the process of the production and evaluation of the management plan, we will move deeper into the analysis of how the concept and the plan were put into practice in a specific school.

Based on a case study about the activities' development supported by the new concept of educational management, we move to the third article of the research, which is guided by the following question: *How is the new concept of educational management put into practice in a local school and its community?*

Considering educational management as a social-cultural-historical movement means that educational management is not only seen as the accomplishment of tasks. It is seen as management organized by activities that are collectively organized and based on needs connected to a possible shared object. The article will also discuss a management model that identifies a social-cultural-historical movement at the school in opposition to a view that identifies management as an administration model. Instead of analyzing *management plans* produced in different educational settings, one case from a specific school will be analyzed in order to understand the management movement from inside to outside the school.

Finally, in order to complete the study we analyze how the intervention process was developed in a chain, which is stated in the fourth research question: *What makes the chain work? What makes the chain creative?* These questions will be addressed in the fourth article of the study.

As this study is developed in different situations in a public educational system, the creative chain of activities is a key theoretical framework for fostering agency and transformation in order to cross the boundaries of the educational management organization. By answering this question I will develop the theoretical discussion on the creative chain (Liberali, 2006; 2009), discussing its main principles and developing some main challenges. Further, I will examine how the management expands throughout the Secretariat of Education, Boards of Education, and schools through instruments and multivoicedness in a creative chain of activities.

6 THE RESEARCH CONTEXT

The Brazilian Educational Guidelines⁵ (Brazil, 1996) state that the public educational system is to be organized on three different levels: the federal, state, and municipal.

First, at the federal level, the Ministry of Education is in charge of providing guiding principles for the organization of the national educational program. It is also responsible for managing vocational and higher education.

Second, the state level is represented by the State Secretariat of Education, which is responsible for establishing state educational programs following the guidelines provided by the Ministry of Education. This educational system must provide elementary and secondary school to all people, and it is required to provide high school. It can also offer vocational education.

Finally, the municipal level is represented by the Municipal Secretariat of Education. The Municipal Secretariat is required to offer elementary education, and it can also offer other educational levels according to the needs of the city.

Each of the three levels described is comprised of different sublevels, and the research project which this paper is part of will be carried out within a hired consulting project for manager educators on the municipal level.

The work is developed taking into consideration the following spheres:

- The Secretariat of Education, which is the organization in charge of establishing rules and regulations for education at the municipal level;
- The Regional Boards of Education, which are in charge of disseminating the Secretariat's decisions as well as organizing teaching education programs for manager educators and teachers at the district level;
- Schools, which are responsible for teaching and learning processes.

⁵ Lei de Diretrizes e Bases da educação nacional (LDB).

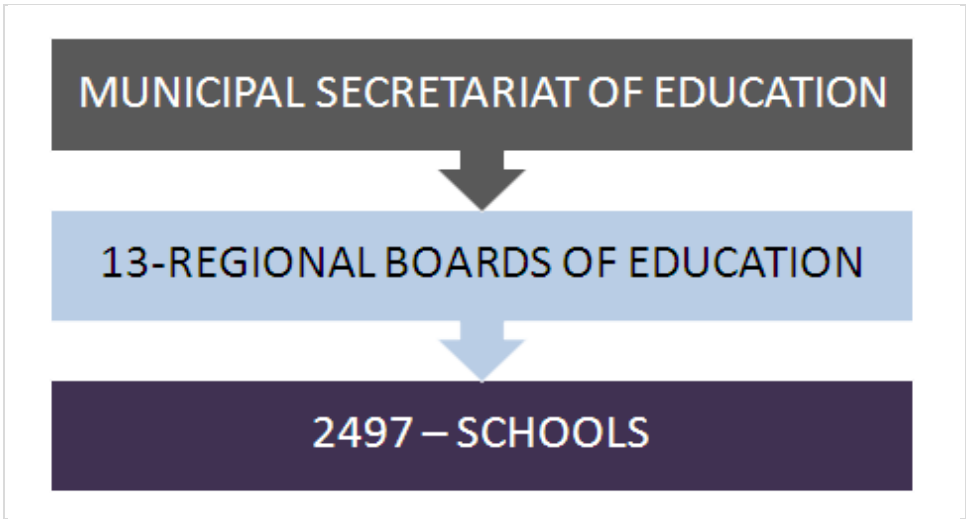


Figure 10. The São Paulo city educational system

Although these three spheres are subdivided into many others, the managers directly involved in the meetings are the Director and Pedagogical Team in the Municipal Secretariat of Education, the Pedagogical Directors and Teacher Educators on the Regional Board of Education, and the Pedagogical Coordinators and Teachers at schools.

Table 2. Research participants

Municipal Secretariat of Education	Regional Board of Education	Schools
<i>Director</i>	<i>Pedagogical Directors</i>	<i>Pedagogical Coordinator</i>
<i>Pedagogical Team</i>	<i>Teacher Educators</i>	<i>Teachers (two schools)</i>

In the Municipal Secretariat of Education, the director is responsible for producing the guidelines and programs for the city educational system with the pedagogical team, which is divided according to subject areas, e.g., Portuguese, Math, Science, English, and others. The pedagogical director manages the teacher educators, who provide training for pedagogical coordinators, and teachers from the different Boards of Education.

At the school level principals are responsible for the budget, the personnel, and the regulations at school, while the pedagogical coordinator is in charge of working with the teachers' education, the students, and the parents' demands.

Finally, the teachers are responsible for teaching their subject following the guidelines provided by the municipal Secretariat of Education.

7 METHODOLOGY AND DATA

7.1 Interventionist Methodology

In this section the methodological contribution shows the relation between theory and practice and its relevance to the development of activities for school transformation in an interventionist research process.

Sannino and Sutter (2011) cite experimental research as one classical example of interventionist research. The authors hold up the Freudian tradition and Piaget's initial work as examples of how the interventionist method is related to the psychological theory of development. However, they point out that although experimental research has contributed greatly to the development of investigation, especially in the field of psychology, it has remained a technique and is not a methodology for transformation. Engeström (2005) states that in the discourse of studies dedicated to the development of experimental research, it seems pre-established that researchers develop a project, the teacher implements it (and contributes to its transformation), and as a result of this type of research, students learn better.

Interventionist research contrasts with experimental research, because the latter keeps a distance from transformation issues and, at the same time, ignores what interventionist research identifies as contesting grounds, full of resistance, reinterpretation, and surprises (Engeström 2000). Magalhães and Fidalgo (2010, 3) consider transformation as a key for interventionist methodology; according to them, interventionist research is a kind of investigation in which all participants negotiate meaning. By negotiating meaning, the participants are able to understand, analyze, and possibly transform the research scenario. At the same time, the analysis and understanding of activity system components, the subjects, instruments, rules, division of labor, rules, and objects (Leontiev 1977; Engeström 1987), are essential steps to seeing transformation. Bearing Engeström (1987) in mind, transformation can be seen as the general object of science. On the other hand, the author states that the general contains the expansive movement of 'becoming' from the isolated to the interconnected, from the simple relation to the complex system.

This work is strongly connected to the tradition of intervention as a way of transforming situations of injustice. As most public schools in São Paulo are situated in low-income communities, it is very common to have students, teachers, and managers who have the right to go to school or to have their jobs, but the criminality and poverty in their living situation are so great that they need to develop tools to make education happen inside and outside the school. This is what LACE (Language and Activities in Educational Contexts) has been work-

ing on since the beginning of the 2000, when together with them I started as an interventionist researcher.

In this perspective, the process of interventionist research presupposes that researchers and the participants develop their expertise in collaboration with each other. Interventionist research also presupposes that the participants take responsibility for the transformation they are going through and develop it with their partners in contexts other than the research context. In this scenario one thing must be very clear: interventionist researchers who are involved in educational contexts are not supposed to do social work, they are supposed to work with knowledge and improve the knowledge of the people who work with education so they can develop tools and strategies in order to contribute to the communities' transformation as well as that of the schools they are in.

Based on Engeström (1987), when relating knowledge to transformation, the researcher assumes the implications of the object of the science not as the external world of natural and cultural objects or events, but as an object description of how the research has incorporated the cultural constructions of the educational managers.

In this study the interventionist methodology is essential for understanding how different spheres of a public educational system can establish close relations to each other in order to transform their realities. As an interventionist project it generates the data throughout the research process.

7.1.1 Overview of the data

As mentioned above, the data of this research is produced while the interventionist process takes place. The main data produced are from meetings with the manager educators, the main purpose of which is to conceptualize and organize educational management in the municipal educational system.

Apart from the meetings, other data sources include interviews, management plans, different versions of meeting plans and Powerpoint presentations, school plans, and reports.

The table below illustrates the overview of the data produced from 2011 to 2013.

Table 3. Data overview

TIME	PLACE	PARTICIPANTS
<u>2011- May and June</u> 12 hours 6 hours for each meeting	RBE ⁶ - F/B	1- Pedagogical director 7- Teacher educators 1- Consultant researcher 3-Researchers
<u>2012 - May, June, August, September, and October</u> 20 hours 4 hours for each meeting		
<u>2011- August, September, October, and November</u> 16 hours 4 hours for each meeting	RBE - B	1-Pedagogical director 5- Teacher educators 30- Pedagogical coordinators 1-Consultant researcher 2-Researchers
<u>2012 - May, June, August, September, and October</u> 20 hours 4 hours for each meeting		
<u>2011 - August</u> 4 hours	MSE ⁷	1-Director 9- Pedagogical Team 1-Consultant researcher
<u>2011- September, October, and November</u> 12 hours 4 hours for each meeting		
<u>2012 - May, June, August, September, and October</u> 20 hours 4 hours for each meeting		
2013 – 8 hours		3- Pedagogical Coordinators ⁹
Field observations; school planning, school reports, and pictures		

The data are organized in four different and interconnected settings. The first set of data is based on scientific texts, official documents, and an interview with

⁶ Regional Board of Education. There were also meetings in August, September, October, and November, but they were not video - nor audio - recorded.

⁷ Municipal Secretariat of Education.

⁸ The director participated in some meetings.

⁹ One of the actual pedagogical coordinators used to be a RBE director, another one is RBE teacher educator, and a third one is a pedagogical coordinator.

directors from the Secretariat of Education in order to understand how the management of the educational system in the Secretariat of Education was organized. Then the second set of data is based on one meeting that took place in the Secretary of Education for directors from the Regional Board of Education to define the concept of educational management. The third set of data is based on an instrument called the *Management Plan*, which was produced by the whole educational system as a framework to organize the chain of activities. And the fourth was extracted from two meetings where manager educators evaluated the meetings and explained how they developed the work in their specific contexts.

7.1.2 Methods of analysis

In order to analyze the data, they were first organized into content logs (Jordan and Henderson, 1995), and after that, the data were analyzed in utterance, discursive, and linguistic layers, based on a method by Liberali (2013). Content logs, as suggested by Jordan and Henderson (1995), *consist of a heading that gives identifying information followed by a very rough summary list of events.*

As the level of detail is determined by the interest of the researcher, I first created a table to provide an overview of the meetings. Then, I labeled the content log with **time**, so that I was able to identify the time and duration of each turn; the **turn** number according to each voice position; **who** is speaking, the producer of the utterance; what **topics** were discussed and **notes** in order to identify some embodied actions; and other extra information.

Table 4. Content log organization

TIME	TURN	WHO	TOPICS	NOTES
33:36	88.	PC9	Resources distribution. Systematization is another thing	Many people talking at the same time

The next step was to go through the content log and select the most important moments of the meetings according to the research question. After that, I identified categories that emerged from the discussion in the meetings, also based on the research question.

For the first question, for example, the categories were related to the management of sense making. Through **movement** it is possible to notice how the **senses** are shaped according to the participants' positioning; however, when participants express their opinions and as it is a collective sense making, it also

generates **questions** or **points of debate**, times related to disagreements, and times related to **crystallized senses** that are brought to the discussion.

After the content logs, the next step is to go through the utterance layer, which, according to Liberali (2013), focuses on the context in which the utterance is produced in a dialectics among the place, time, and means of circulation, participants, objectives, and contents.

Bakhtin (2006) understands utterance as a reply to a social dialogue, as the basic unit of language. Utterance contains a social nature, thus it doesn't exist outside a social context, since each utterance producer belongs to a social horizon, in other words, to an activity. The utterance producer is always interacting with someone, even though the receiver may be unknown, and even if it is a monovoiced utterance. The utterance producer always talks to an audience.

The organizational plan is one of the discursive characteristics stated by Liberali (2013). It relates to the ways the utterance begins, how it develops, and its closing. The way these three sublayers are interconnected is essential for the analysis of the meetings in this study.

Bakhtin (2006) claims that history is constituted by discourse opposition, so the way oppositions are raised and developed is essential to understand the whole process of concept formation and its practice.

The linguistics layer is important for understanding how the utterance and discourse layers are materialized. In this research, lexical choices, questions, and cohesive mechanisms are important for showing how the process of concept formation develops.

8 THE ARTICLES AND THE TIMETABLE OF THE DISSERTATION

The dissertation will comprise an introduction, four scientific articles, and a summary. Below I outline the four research questions described in the introduction and in section five; these questions divide the study into four different, interconnected scientific journal articles. I also briefly describe the basic ideas for the articles, the potential journals for the publications, and the research methods.

Authors: Monica Lemos & Yrjö Engeström

Keywords of the article: personal sense, societal meaning, concept formation

Scientific journal: Educational Management, Administration and Leadership

The objective of the first article is to analyze how a new concept of educational management is produced in a consulting project for manager educators in the city of São Paulo, Brazil. In this article we will answer the first research question *of the nature of the interplay between personal sense and societal meaning in the process of concept formation in educational management.*

By presenting the historically produced contradictions regarding the organization of educational management in the city, we introduce the necessity of developing a new concept.

The necessity of the manager educators' consulting project was generated from the lack of partnerships amongst managers from different levels in the implementation of educators' development policies. Another reason for the consulting project was the need to recognize the importance of teacher educators, pedagogical coordinators, principals, and teachers to be able to make decisions about ways of planning and work.

Based on the theoretical framework of activity theory, documents, scientific papers, and a biographical interview with two actors of the educational system will be used to create a timeline in order to investigate the need for educational management concept formation.

Vygotsky (2003 p.105) states that a concept is taken in connection with a particular task or need that arises in thinking, in connection with understanding or communication and the fulfilment of a task or instruction that cannot be carried out without the formation of a concept. Throughout the article we discuss the route traveled from sense and meaning (Vygotsky,1934/2001; Leontiev 1978) towards a movement of concept formation (Engeström, et al,2005; Engestöm, 2011b) that is closer to the needs of the people involved in the educa-

tional scenario. As this work is part of an interventionist methodology, it proposes analysis, critical understanding, and the possibilities of the transformation of educational realities.

Finally, in order to find which educational management concept is produced, we analyze three meetings for manager educators in which the participants are involved in a movement of sense making, meaning the sharing and concept formation of educational management. Since the process is a transformational process, the meetings are shown to promote dialogue between the different spheres of the studied educational system. The analysis suggests that although the process of concept formation is multivoiced, not all voices are considered in the process.

The aim of the second article is to discuss the role of multivoicedness in the process of producing and evaluating a course for manager educators in the city of São Paulo, Brazil.

Author: Monica Lemos

Keywords of the article: instruments, multivoicedness, activity theory

Scientific journal: Review of educational research

The article relates the necessity of distributed management in a process management organization in the educational system.

I am going to answer the following research question in this article: How are new instruments of educational management produced in multi-voiced encounters?

This study is based on a Cultural Historical Activity Theory perspective in which the principle of multivoicedness and the discussion on instruments are raised in order to develop a *management plan* not only as a prescription for the work but as a possibility of rethinking the work in the educational system.

Regarding the theoretical background, the paper will be divided into three parts: the first will be devoted to a brief overview on activity theory, the second raises a discussion on mediating instruments, and the third raises a discussion on multivoicedness. A deeper look into organizational studies and an overview of activity theory focusing on instruments and multivoicedness are the theoretical bases that support answering the question.

Two other elements of activity theory are recognized as key concepts for this paper: need and object. They will not be used as part of the theoretical framework, but as the main guide for producing the *management plan*.

Interventionist research is presented regarding the voice distribution and voice positioning to analyze the discourse presented in the course and its contribution to the educator managers' development.

The primary data selected for this article are the management plan, which was guided by the problematic situation, and the drama that corresponded to the needs and the shared object. The management plan is based on *studying*, *training/implementing*, and *monitoring*, which serve as axes for planning the management activities. The table on the following page shows an example of how the *Management Plan* was produced.

PROBLEMATIC SITUATION/ DRAMA →		SHARED OBJECT
STUDYING		
TRAINING/ IMPLEMENTING		
MONITORING		

Figure 11. The Management Plan¹⁰

As the objective of this article is to analyze how the different voices are taken into account during the process of the production and evaluation of the *Management Plan* instrument, we will analyze two meetings involving teacher educators from the thirteen different boards of education in the city.

Both meetings lasted four hours each. The topic of the first was the production of the *management plan*, and the second focused on its evaluation. Three *Management Plans* will also be analyzed.

¹⁰ The Management Plan was produced by professor Fernanda Liberali for the consultancy project.

Author: Monica Lemos and Hanna Toiviainen

Keywords of the article: educational transformation, relation school-community, activity theory

Scientific journal: Journal of Educational Change

Understanding educational management as a social-cultural-historical movement means to view educational management not only as the accomplishment of tasks but as management organized by activities that are collectively organized, based on needs towards a possible shared object.

This paper aims at discussing how the instrument *management plan* can contribute to the transformation of educational management activities at school. The following question guides the study: *How is the new concept of educational management put into practice in a local school and its community?*

The study also discusses a management model that recognizes a social-cultural-historical movement at school in opposition to a view that sees management as an administration model. Instead of analyzing *management plans* produced in different educational settings, one case from a specific school will be analyzed in order to understand the management movement from inside to outside the school. The study discusses how the instrument management plan can contribute to the transformation of educational management activities at school.

Next, the methodological issues are presented in order to set interventionist research as the key approach to educational change. In an interventionist perspective, collaboration and language organization are essential in order to empower participants in educational management activities. The primary idea is to show the *Management Plan* as a mediating artifact that can provide the organization for a school transformation.

Regarding the data analysis, although the data are organized in a chain of activities, they focus on a specific school, thus the work developed by the coordinator of this specific school will be traced throughout the meetings. We will also analyse a sequence of activities developed by the school team and community in order to solve the problem of a flood issue in the community.

Author: Monica Lemos and Fernanda Liberali

Keywords of the article: creative chain, agency, activity theory

Scientific journal: Mind Culture and Activity

The objective of this article is to develop the concept of the creative chain (Liberali, 2006), which is comprised of the pedagogical coordinators' meeting with teacher educators and consultants, the school development programs with the coordinator and teachers, and the classes with the teacher and students.

In order to answer the question of *what makes the chain creative and makes the chain move*, we use data from the Management in Creative Chains project, which has been developed for the Municipal Secretariat of Education of the city of São Paulo in Brazil for the broad development of all levels of school management (teacher educators, coordinators, principals, teachers, and students).

As this study is developed in different spheres of a public educational system, the creative chain of activities is a key theoretical framework for fostering agency and transformation in order to cross the boundaries of management organization.

This article is a result of interventionist research conducted in a critical collaborative perspective. In this type of research, participants learn through becoming involved in all moments of the research process and through becoming responsible for the shared evaluation and reorganization of practices.

In order to foster the agency and transformation that crosses the boundaries of school contexts, I will analyze two meetings in which teacher educators and pedagogical coordinators evaluate a course by sharing how they implemented what was discussed in their contexts. This was done as a result of an interplay of senses that produced new meanings about teaching-learning activities.

This creative chain (Liberali, 2006) was comprised of a coordinators' meeting with teacher educators and consultants, school development programs with the coordinator and teachers, and the classes with teacher and students.

These meaning transformations which stemmed from the struggle established in activities between subjective senses were created in the process of dynamic and responsive understanding and acting. This means that the management of education can be developed not simply as tasks, laws, and regulations to be accomplished, but through mediating artifacts developed in order to transform participants, the educational management itself, schools, and their surroundings.

8.1 The timetable of the dissertation

The table below reviews the titles of the scientific articles and research questions, and summarizes the theoretical framework and the data of the research. I also estimate the time of the articles' submission.

Table 5. Summary of the dissertation

Article title	Research question	Theoretical concept	Data	Submission date
1. Concept formation in educational management: Through sense and meaning	What is the nature of the interplay between personal sense and societal meaning in the process of concept formation in educational management?	Personal senses, societal meaning, concept	Three meetings with teacher educators defining the concept of educational management (four hours each)	December 2013
2. The multivoiced construction of new tools for educational management	How are new instruments of educational management produced in multivoiced encounters?	Instrument, multivoicedness	-One meeting in which the management plan is produced (four hours) -One meeting in which the management plan is evaluated (four hours) - Management plans	May 2014
3. The local dynamics of educational transformation: Implementing the new management concept in a community	How is the new concept of educational management put into practice in a local school and its community?	Activity theory	- Pedagogical Coordinator's participation in the meetings -Plans -Meeting with the community, school, and health care unit -Video manifest -Interview -Blog -Pictures	December 2014
4. The creative chain of activities in the process of educational management	What makes the chain creative? What makes the chain move?	Creative chain, agency	Closing meetings of MSE and RBE-B (five hours each)	June 2015

9 ETHICAL ISSUES

The issue of ethics is taken seriously in this study. As mentioned before, the present research is included in the Brazilian Management in Creative Chains Project.

Data were partly produced by video-recording during the course for manager educators and partly by a specific school and its community.

The data produced and collected is stored on hard disks and accessed by the post-doctoral Fernanda Liberali, the coordinator of the project in Brazil and the research group of Language and Activity in Educational Contexts (LACE) that I am a part of.

Participants are required to sign an informed consent form. The privacy of the participants will be protected. The participants are only referred to by initials in the analysis.

To further protect the privacy of participants who request it, their faces will be blurred beyond recognition in all the photos and videos extracted from the video-taped material or other visual data if they are used.

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