

# Performance metrics use by principals: between instrumentalization and instrumentation

*Usage des indicateurs de performance par les chefs d'établissement :  
entre instrumentation et instrumentalisation*

Larbi HASROURI

Docteur qualifié en sciences de Gestion  
IAE d'Orléans – VALLOREM (EA 6296)  
lhasrouri@gmail.com

## ABSTRACT

Since the 1982 decentralized Act, the French secondary public schools are whole organizations. They have been impacted by the New Public Management. Indeed, the headmasters have to design an establishment project, as an internal translation of objectives agreement act that is needed to negotiate with the regional authority, as a tool of strategic control (Dorbraire et Pupion, 2011), that teachers are supposed to actively participate. The organizational control within high schools leans on a boundary-object: establishment project, particularly on the appraisal step. We focus on performance metrics in use by headmasters in these organizations and the impact on the pre appropriateness with the actors. The article, based

on a dozen of interviews with headmasters, secondary data and an interview with a central administration executive, aims to show a possible combination of logics within public schools between teachers and headmasters regarding metrics use. We use the instrumentation theory (Rabardel, 1995, 2005) and metaphor to present our results. The use of metrics varies from instrumentation to instrumentalization, giving a dynamic to the instrument genesis, the heart of our theoretical frame.

## Key-words

*Management control; Instrumentalization; Instrumentation; Sensemaking; Metaphor*

## RÉSUMÉ

Depuis les lois de décentralisation de 1982, les établissements publics locaux d'enseignement (EPL) disposent de la personnalité juridique et constituent des organisations à part entière. La recherche d'est peu à peu emparée de ces organisations publiques impactées par le nouveau management public (NMP). A ce titre,

les chefs d'établissement doivent traduire de manière opérationnelle un contrat d'objectifs négocié avec sa tutelle, instrument de contrôle stratégique (Dorbraire et Pupion, 2011), avec la participation active des enseignants. Le contrôle organisationnel s'appuie alors sur un objet-frontière : le projet d'établissement. Le volet évaluation de cet objet frontière repose largement sur l'usage des indicateurs de performance par

les chefs d'établissement. Sur la base d'une dizaine d'entretiens menés auprès de chefs d'établissement complétés par des données secondaires et un entretien avec le sous-directeur à la DEPP, l'article montre que l'usage des indicateurs inhérents au projet d'établissement est au cœur de logiques combinatoires entre les enseignants et les chefs d'établissement. Nous mobilisons la théorie de l'instrumentation étendue (Rabardel, 1995, 2005) et nous recourant à la métaphore de la machine

pour une présentation de nos résultats. L'usage des indicateurs oscillerait alors entre instrumentation et instrumentalisation, donnant un caractère dynamique à la genèse instrumentale qui est au cœur de la théorie de l'instrumentation étendue.

## Mots-clés

*Contrôle de gestion ; Instrumentalisation ; Instrumentation ; Représentations ; Métaphore*

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## INTRODUCTION

The education system has always had a certain singularity within the public service. The supply of public service requires like any other local public service (LPS) the concomitance of the user, it is co-produced by this same user, the pupil, the student and indirectly the parents<sup>1</sup>. Some consider that it is more of a singular activity in the sense that there is no *modus operandi*, the pedagogical approaches are as many varied as there are teachers. The activity does not seem to be standardized, and the transformation process is not known. Moreover, teachers' activity is based on a principle: pedagogical freedom, which is in reality professional autonomy. Management control applied to the education sector cannot therefore be of a cybernetic nature, as Hofstede (1981) already emphasized, because of a singular and autonomous activity. However, since 2006<sup>2</sup>, the Organic Act on the Finance Laws (LOLF) has progressively penetrated the education system at the macro level (ministry) and at the meso level (deconcentrated services), which includes a performance evaluation division<sup>3</sup> for the former and academic management controllers for the latter. The performance indicators are clearly visible in the ministerial programs of the LOLF, of which there are four. The LOLF now appears to be the concrete translation of the principles of the NPM and imposes in its wake the production of a whole battery of indicators in all organizations

under the direct or indirect control of the State; this is particularly the case in universities, hospitals, administrations, etc. (Bessire and Fabre, 2011: p.3). Management control has made its entry into the rectorates of academies with the creation of academic management controllers. The academies have thus designed a whole battery of indicators for territorial management purposes or for use by local public education establishments (LPEE).

But what about in public administrations and establishments where operational staff enjoy relative professional autonomy?

Our research question is thus the following:

**How do public school headmasters take hold of performance indicators and how do they use them with autonomous teachers?**

In local public schools (LPEE from now on), school headmasters (now CEs) have indicators for the Steering of Secondary Schools, called since 2013 APAE<sup>4</sup> (*Aide au Pilotage et à l'Auto-évaluation des Etablissements*) from an online application of the same name. But we know nothing about how they use it.

The central and decentralized state expects the CEs to use them for steering purposes but also for self-evaluation within LPEEs, in addition to its accountability function.

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<sup>1</sup> See the complementarity between formal and informal education.

<sup>2</sup> In reality, the LOLF only really entered the MEN in 2006 and was only generalized from 2007 onwards within the French Education Ministry.

<sup>3</sup> Department of Evaluation, Forecasting and Performance of the Ministry (DEPP).

<sup>4</sup> The P of APAE means piloting.

These APAE indicators are more complete than the high school results indicators, which are intended for the general public and published on the Ministry's website under the name of Value-Added<sup>5</sup> Indicators. Four headings are available in APAE:

- Identification of the school;
- School population (social and professional category, number of pupils);
- Staff and resources;
- Performance (student outcomes, guidance, examination results).

The APAE data covers five school years and makes it possible to situate the school in relation to the department, the academy and the national level in terms of indicators. It is also possible to set up a personalized dashboard for the head teacher, in particular to have a comparison with other LPEEs or aggregate levels.

The APAE indicators are designed by the DEPP<sup>6</sup> and should be used at the LPEE level according to the deputy director whom we interviewed at least twice:

- *“In my opinion, they must be used at the time of the pre-school meetings when the school is presented;*
- *Automatically when a new head teacher makes the diagnosis of the school and receives the letter of assignment from the rector or by delegation from the DASEN.*

*There are more than 200 indicators, we can compare class sizes according to territories, study continuation rates, everything to do with orientation, we can cross-reference scholarship students with the PCS and we find substantial differences”.*

However, the deputy director emphasized their interest for the DEPP in that they make it possible to classify schools according to whether they are “*selectors, coaches, etc.*”.

It should be noted that the GBs can also construct their own performance indicators according to the type of institution and their experience. Some have

an internal and personal scoreboard fed by their own indicators different from those of the “supervisory authority”.

The 1989 law enshrined the school project and autonomy, but it was not until 2005 (institutionalization of the practice of contracts of objectives interfacing with school projects) that the school boards and LPEEs began to address the issue of evaluation, according to recent reports by the Ministry's Inspectorate General. These same reports also underline the difficulty of appropriating performance indicators from the field.

To answer our question, we present organizational control within LPEEs through the school project, which in our view constitutes a frontier object serving as a support for evaluation for performance management purposes. It brings together two worlds: the teaching world and the managerial world of the CEs and constitutes a frontier object. In order to answer our question, we will rely on this concept and on Rabardel's theory of extended instrumentation (1995, 2005) with regard to our results. We will present these results using a metaphor that is well known outside the cybernetic model of management control: that of the machine.

## 1. ORGANIZATIONAL CONTROL IN LPEE: instrumental by a boundary object with antagonistic rationalities

At a meta-level, the use of indicators serves first and foremost in the context of reporting for accountability purposes. But this use of indicators is not exclusive of others. Thus, the deputy director interviewed emphasized the role of locally constructed indicators for teachers, which must question their reflexivity or the school policy:

*“The question is how the teachers in their class have an idea of the indicators when they are teaching. For*

<sup>5</sup> For secondary schools: indicators of added value, the exam success rate, the expected rate given the public served, the rate of transition to higher classes between entry and exit in the school and the proportion of baccalaureate holders among school leavers.

<sup>6</sup> Department of Evaluation, Forecasting and Performance of the Ministry..

*example, can we be satisfied with the fact that in a vocational school there are 100 pupils in the second year, 86 in the first year and 72 in the final year? That's a 28% attrition rate, which should raise questions. Why is there such a high drop-out rate, and how do teachers mobilize to change this, regardless of the individual quality of teaching? In the general lycées, the high exit rate suggests that it is either a way of getting rid of certain pupils who have been directed to the technological stream or through network effects”.*

According to the deputy director, the use and design of locally constructed indicators are in dialogue. It is therefore a design in use for indicators from the ministry and the rectorate and a design in use (De Vaujany, 2006; Grimand, 2012) by the CEs with the teachers in order to link results and teaching practices. This is also the aim of the school project: locally constructed actions within the framework of the academic project which give rise to an evaluation-control by a collective judgement within the framework of discussion bodies. In this context, there are necessarily several frames of reference:

- That of the school heads;
- That of teachers, for whom the evaluation of actions is not easy at first sight;
- That of the other stakeholders involved in the school project.

These multiple frames of reference echo the multiple representations that these stakeholders have of evaluation-control through their own rationalities. Châtelain (2010) has shown that non-market organizations cannot simply transpose the tools because of the aims of these organizations but also because of the conjunction of several rationalities at play. During the development of the school project and its evaluation phase, at least two rationalities<sup>7</sup> (Châtelain, 2010: p.85) are at play within the LPEE:

- An instrumental rationality embodied by an evaluation of results in relation to objectives through performance measurement indicators

(exam pass rate, rate of passage to the next class, rate of access to a degree, cost of a learner etc.). The majority of headteachers adhere to this economic and managerial rationality because of the need to improve educational performance and, moreover, see the need for their managerial action in this economic logic;

- A professional rationality, particularly on the part of teachers, who place the emphasis first and foremost on their professional autonomy and the performance of their duties, which cannot easily be monitored by means of indicators, since other factors exogenous to their action (characteristics of the public served, difficulties encountered by pupils at the outset, resources made available, extra-pedagogical problems, etc.) may come into play. Moreover, teaching is an activity co-produced with the user and requires his or her active contribution, the process of which is difficult to repeat.

These two rationalities can sometimes find a compromise or sometimes come into conflict or friction regarding the issue of evaluation in the context of the school project. The core of the controversy between headteachers and teachers often revolves around the question of performance indicators used as a framework for analysis and discussion within the framework of the school's ad hoc bodies. The frames of reference for reading these indicators underlie the rationales and are therefore multiple, since among teachers, for example, there may be many privileged values (public service, pedagogical freedom, student success, competency-based approach).

As far as school management is concerned (headteachers, deputy managers, accountants, etc.), the school project is ideally the translation (educational and pedagogical) of the contract of objectives that binds them to their supervisory authority (the education authority) and to the local authority to which they are attached, where applicable. It is a tool for reporting<sup>8</sup> on the activity of the LPEE since it is supposed to materialize the pedagogical and educational

<sup>7</sup> There is also a political rationality embodied by the rectors and DASENs on the one hand and the presidents of the regions and departments on the other, which we will not develop here.

<sup>8</sup> Since the 2005 law, the head teacher must present an annual activity report based on the school project. The IGEN notes that few of them carry out such an exercise.

projects implemented by the teams. These projects must be in line with the school project, which itself most often corresponds to the objectives of the contract. A phase of evaluation of the projects and the project is planned for their renewal or not. The guidance path for these steering tools is that of the academic project.

Success in developing and implementing a school project depends on the combination of a set of parameters and human factors that are compatible with each other and that interact to produce a tangible and visible result.

In 1989, Star and Griesemer, in a seminal article, conceptualized the notion of the border object, which is part of the “grounded theory”. *“Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites”* (Star and Griesemer, 1989: p.393).

The border-object stages the role of all sorts of artefacts (representations, methods, management tools) in a rethought version of the actor-network that challenges an asymmetrical reading of translation operations, as deployed in the work of Akrich, Callon and Latour (2006). These are in fact related to *“the quasi-imperialist action of the innovator, the manager or the entrepreneur, who endeavors to enroll other actors/actors via, in particular, the constitution of an obligatory passage point”* (Trompette and Vinck, 2009).

The school project can be described as a border object in the sense of Star and Griesemer because it embodies the representations of two worlds:

- That of the teachers (which is not a monolithic block);
- That of managers and management in general (which embodies change).

Zeiss and Groenewegen (2009), comparing the use of this concept in science and technology and in management science, underline the interest of the

boundary object approach, which has become in part a management tool in organization theory:

- Boundary objects have partly become management tools because they can be a barometer of organizational complexity where appropriate. In management science, the emphasis is more functionalist, more instrumental and prescriptive: the boundary object is congruent to the management tool.
- Boundary objects can help to create common ground between organizational teams.

The school project, which is the translation of the contract of objectives that the GB signs with his or her hierarchy by the head teacher, constitutes what the literature calls a border object. This document must be drawn up in interaction with the teachers, who do not have an evaluation culture, and the GBs, who are real managers (Barrère, 2013), and must include measures (objectives, results, means implemented) that have an impact on the decision-making process for renewing educational projects.

The evaluation phase, mainly through the use of indicators, will reflect a set of sense of the use that is made or that can be made between the two worlds and the underlying rationalities.

From then on, this frontier management tool, an artefact at the outset, will be subject to influences which themselves stem from rationalities. The notion of artefact is the starting point of Rabardel's instrumental theory (1995, 2005) for which an object is first of all a tool. It then becomes an instrument according to the uses that are made of it according to cognitive or socio-cognitive schemes. Indicators are initially proposed to discuss actions and their evaluation, and then evolve according to these same discussions and therefore according to the uses made of them.

To define the notion of instrument, Rabardel (1995) starts from the notion of technical object, of techno-centric orientation. But he proposes the notion of artefact as an alternative term to tool, neutral,

9 Since the 2005 law, the head teacher must present an annual activity report based on the school project. The IGEN notes that few of them carry out such an exercise.

allowing to think different types of relations of the subject with the object.

The transition from artefact, i.e. from border object to instrument, refers to a process of instrumental genesis. In the course of this process, the same artefact/frontier object may be assigned various functions for different users, which are characteristic of the development of instruments (Rabardel, 1995). The concept of instrumental genesis makes it possible to grasp both the evolution of artefacts linked to the user's use of them and the emergence of cognitive schemas as part of the same process of instrumental elaboration. Rabardel (1995, 2005) shows that these instrumental geneses appear at the two poles of the instrumental entity - artefact: boundary object and use schemas - and present two dimensions: instrumentation - oriented towards the subject - and instrumentalization - oriented towards the artefact: boundary object and its designers.

## 2. THE DIFFICULT TRANSITION FROM MEASUREMENT MANAGEMENT TO ORGANIZATIONAL CONTROL

The transition from using indicators for measurement purposes to using them for performance management purposes is difficult in public organizations in general.

Measurement is a necessary condition for management according to the adage *“what cannot be measured cannot be managed”*. For Oriot and Miziazsek (2001: p.26) *“performance only makes sense in relation to a given decision, for a user with a given responsibility, within a given context, a given strategy and a given time horizon”*. More precisely, *“performance is linked to a field of responsibility. The person who is responsible is the one who can act, who must act within the parameters of performance and who must be accountable for his or her performance and for the resources placed under his or her authority”* (Lebas, 1995: p.69).

For a head teacher, it is a question of finding the levers for progress in his or her school (these are the parameters

of performance) in order to make the best possible use of the means at his or her disposal (the budget, the overall hourly allocation representing the wage bill in hours and the logistical means) with a view to reporting on his or her performance (to his or her supervisory authority, The school's performance indicators (those of the academy called APAE/IPES) or those that it designs itself locally within its school as part of a personalized dashboard. Indeed, the most relevant expression of measurement is the indicator.

For Gibert (2000), measurement in public management raises two questions:

On what types of measurement will we focus? This refers to *“for whom is the measurement”*, i.e. the purpose of the measurement and how can the measurement be developed with any chance of success? Thus, to its design parameters. On this last point, the manager will pay particular attention to value-creating processes and activities, provided that he or she can model them and link them with measurable indicators. This is performance management, which is not easy to implement because of the complexity of cause-and-effect relationships and the unpredictability of the future. With regard to complexity, we can try to remove the ambiguities of objectives or find indirect measures of results to move from political control to control by judgement (Hofstede, 1978), but the path remains to be constructed. The degree of complexity depends on the hierarchical level at which one finds oneself. The closer one is to the field, the easier it is to establish the link between an action and its consequence.

It is with this aim in mind that the public sector has introduced the practice of institutional projects (hospitals, universities, LPEEs, etc.), which embody their autonomy but oblige them to evaluate and report. More autonomy in exchange for more control, but as close to the ground as possible in a participative mode. The project mode is part of the methods specific to participatory management, such as (participatory) management by objectives or quality circles. The aim is to mobilize the members of an organization, through shared values, to unite their energies with a view to achieving the organization's strategic objectives. The assumption is that more participation will lead to greater effectiveness and efficiency (Gibert and Pascaud, 1989: p.126). The closer the steering is to the field, the more effective public organizations are supposed to be (Chatelain-Ponroy, 2008).

However, they come up against a certain incompleteness of control that makes it difficult to move from measurement (evaluation) to genuine organizational control. Making the distinction between evaluation and control, Thélot (2008), emphasizes the substitutive nature of the latter when the former is long or even difficult to implement.

Bouquin (2013: p.31) distinguishes three sub-processes present in any control system:

- A finalization sub-process (“before”) corresponding to the conditions for the implementation of the system;
- A steering sub-process (“during”) corresponding to the “concrete realization of monitoring strictum”: protocols, procedures, dissemination modalities (or “the operations themselves”);
- A post-evaluation sub-process (“after”) corresponding to the “use of the audit findings” as a basis for conducting public education policy (or “after the operations”) in response to the results.

The audits conducted by the national education inspectorates, constituting usable secondary data, conclude in many reports that the main weakness of school supervision, including LPEE, is the absence or insufficiency of post-evaluation:

*“The situation in French schools is extremely disparate: a few schools are almost totally unconcerned with evaluation; many others use only the results of the sixth-year assessment and monitor repetition rates; some head teachers develop indicators but have difficulty convincing their teaching teams to use them, etc. Although, fortunately, a culture of evaluation is gradually developing in some LPEEs, the teams concerned are often powerless due to a lack of references and methodology”.*

Bouquin *et al.* (2013: p.132) speak of a control paradox when one of the three sub-processes of control poses a problem and of deviations from the fundamental process when one of the processes is not feasible. This is the case of post-evaluation when “*the final performance is difficult to evaluate (student achievement versus exam success rate) or to link to an identified responsibility (the teacher versus*

*the teaching team) either because of quantification problems or because the person who claims to evaluate has lower technical skills than his subordinate, who is responsible for the action”.* According to Bouquin, the issue of control may then shift to the search for influence on the definition of performance criteria, with the stakeholders seeking a consensus or a compromise on this definition according to the controversies.

The post-evaluation phase involves identifying the roles of those in charge, procedures or tools through knowledge or the ability to model cause-effect relationships, in the case of the activity of a school, with the results (student achievement, quality, effectiveness and efficiency indicators) being impacted by the methods, tools and ability to work as a team, which we will call the pedagogical processes. Post-evaluation is almost non-existent in LPEEs and the results are not taken into account in the organization at the activity level. Thélot (2008) notes that results are rarely used and that the use of school evaluation does not exist, although “*we have some evaluation indicators, thanks to a good quality information system*” (p.104).

LPEEs are currently at a crossroads between performance measurement and performance management, in which organizational control is central, particularly the question of the use of performance indicators. The school project, which is a borderline object, needs to gain a certain amount of support so that the evaluation dynamic can be initiated within the LPEEs and enable them to move from a measurement logic (evaluation) to that of organizational control. What then are the possible levers or stumbling blocks?

Barrère (2014) describes secondary school principals as “*prevented controllers of teaching work*”, a control that paradoxically constitutes a new task for these controlled controllers. She notes an extension of the field of control since it is no longer a question of “*running a school*” but of carrying out a coherent project for improvement, which can take several forms, including, in many cases, that of progress in numerical results. In this case, what is important according to Barrère (2014) is to ensure not only that “*things are running*” but also that “*things are moving*” in the school” (2014: p.110). What must move, according to her, are pedagogical practices,

and control then becomes that of an organizational involvement whose indicators sometimes come from the most elementary daily experience of the school: headteachers distinguish between teachers who “*only do their lessons*”, who are never seen, and those who are seen or who spend time in the management offices. Headteachers are the “*de facto guarantors of an organizational modernization movement that they must help to implement, by involving teachers*” (Barrère, 2014).

Even if investment in the schemes and projects is the most visible basis, which headteachers themselves say is “*the work of a large minority of teachers*” (around one-third), this organizational involvement constitutes, according to Barrère (2013), a new area of control. It tends to introduce a decentralized steering by results with quantitative indicators made available to the schools or constructed by the headmasters. Barrère (2013) notes that in small schools, headteachers (particularly in secondary schools) are increasingly involved in “*considerations of the differences in results between teams*” (p.110). Since monitoring is part of a post-evaluation logic (which Thélot and the inspection general denounce as the system's main weakness, since it is almost non-existent), it opens up new areas: involvement, uncertainties that headteachers invest according to their mastery of figures or their adherence “*to processes that they may also feel are monitoring their own actions*” (Barrère, 2014). However, this post-evaluation can “*intimately mix projects and control*” because it legitimizes an action carried out in the name of a priori objective results.

The challenge for headteachers is therefore to enlist the teams around the school project so that they become involved and take up the issue of evaluating the actions included in the project. They then use or design measurement indicators aimed at managing performance, but in reality, they use them according to the sense made by the teaching teams involved in the project.

The dissemination of the evaluation culture within the LPEE invites us to study how teachers receive (even before the question of appropriation, if any) the performance indicators based on the intentions of those who use them (or even design them): the headteachers.

## 2.1. A process of instrumental genesis between instrumentalization and instrumentation of performance indicators

The school project, a borderline management tool, is an artefact at the outset, more or less neutral and constructed by the teams, even if it is standardized because it is part of the academic project (it may depart from it). Locally, room for maneuver margins are possible within the framework of discussion, decision-making and consultation bodies (educational council, board of directors, teaching councils, general assembly of staff, etc.). The indicator, an artefact at the outset, then becomes an instrument: this is the process of instrumental genesis. During this process, the same artefact can, for different users, be assigned various functions, characteristic of the development of instruments (Rabardel, 1995). The concept of instrumental genesis makes it possible to grasp both the evolution of artefacts linked to the user's activity and the emergence of usage patterns as part of the same process of instrumental elaboration (Rabardel, 2005). The instrumental approach of activity theory contributes through its contributions and the concepts it promotes to overcoming the debate on the opposition between design and use and to rethinking the process of appropriation of management tools. Rabardel (2005) himself advocates “*a distributed approach to design that articulates design for use with design in use*”. This approach is in line with de Vaujany's (2006) plea for a genuine theory of the appropriation of management tools based on the design-use dialectic of the management tool presented above and resting on four axioms that he reveals. For Grimand (2012: p.17), appropriation is “*an interpretative process of negotiation and construction of meaning within which actors' question, elaborate and reinvent models of collective action*”. From an appropriation perspective, there is a phase of the management tool appropriation process that has been little studied: the pre-appropriation phase discussed by De Vaujany (2006).

Indeed, the pre-appropriation phase is not widely addressed by research, even though this initial phase, which is still relatively unknown, conditions the future use of the tool and can explain the subsequent appearance of difficulties in the appropriation of management tools by the players (Lemaire

Pre-appropriation	Organizational assimilation	Routines 1	Re-appropriation	Routines 2
<b>Related concepts:</b>	<b>Related concepts:</b>	<b>Related concepts:</b>	<b>Related concepts:</b>	
Perception	Acceptance	Stability	Re-interprétation	
Evocation	Utilization	Routine	Utilization	
Conception	Evocation	Reflexes	Learning	
	Learning	Acceptance		

Figure 1 – The appropriation process

Source: de Vaujany (2005)

and Nobre, 2013). These authors also speak of a real management of the pre-appropriation of management tools: “*Considering a real management of pre-appropriation, understanding the mechanisms at work during this phase could provide avenues to facilitate the appropriation and future use of the tool*” (p.2).

### 3. THE USE OF PERFORMANCE INDICATORS IN LPEE:

#### between instrumentation and instrumentalization with teachers

The development of management indicators is the corollary of the dissemination of NPM principles. Without management tools, they would have remained mere rhetoric. Management by indicators does not prejudice their multiple uses (Bessire and Fabre, 2011), particularly at the organizational level in LPEEs.

#### 3.1. A qualitative methodology based on interviews

We therefore questioned the use of performance indicators by headteachers with regard to teachers. We conducted non-directive and then semi-structured interviews with 12 headteachers on the evaluation

of the school project who agreed to receive us. After transcribing the interviews, we coded the verbatim statements manually (using a grid) on the basis of the following terms: evaluation-control, meaning, management, performance, reporting, steering change, communication, practices, decision. We have kept the passages directly in these terms since, on the one hand, headteachers have a duty to be accountable and, if necessary, to try to steer performance. Internally, it is also a question of giving an operational character to the indicators (which is largely the case for the APAE indicators, essentially results indicators) for the purpose of accountability, while ensuring that there is sufficient representativeness in the teachers' sense. Gibert (2000) specifies that measurement in public organizations must give priority to achievement indicators, a condition for the emergence of a culture of results for the purposes of accountability. Management control would then simply be the steering of sensemaking (Halgand in Dupuy, 1999).

We position our research in the interpretivist current.

Through our interviews, we feel that the headteachers interviewed, for whom the most relevant tool for steering purposes is the school project, are faced with a dilemma at two levels:

- At the meso level, they have to report on the results of their school through an annual operating report, through the contract of objectives,

the external interface of the school project, and through the indicators that their supervisory authority has designed and negotiated during a management dialogue (sometimes there is a career issue). Here we are dealing with the instrumentation of performance indicators within the framework of a management of measurement. We interviewed a school inspector (a former manager) and the academic management controller, who confirmed this instrumentation logic;

- At the micro level, an attempt is made to question the results and the indicators can be proposed by the head teacher (sometimes different from those of the supervisory authority) for discussion or debate in order to influence practices.

Exploratory and then semi-structured interviews were conducted between July 2016 and May 2017 with 12 headteachers and two school inspectors in charge of school evaluation. In addition, it seemed useful and relevant to interview a deputy director of the Directorate of Evaluation, Forecasting and Performance (DEPP) within the Ministry of National Education and an academic management controller within the academy in which the head teachers interviewed work.

As the initial interviews with the headteachers progressed, we took a more directive approach in order to refocus on evaluation-control (Gibert, 2010) through management tools. It systematically emerged that it was through performance indicators (headteachers do not use the term dashboard with teachers in the discussions and debates surrounding evaluation) that headteachers instrumentalize the collective activity of teachers with another tool: the budget. Even if the latter are rarely mentioned as such (the word indicator or performance indicator is never mentioned with teachers in meetings), they are indeed management tools on which discussions are actually based as part of the school project.

The interviews were all recorded in order to transcribe them and extract the parts that could be used in our questioning of management tools in LPEE.

The interviews were all recorded in order to transcribe them and extract the parts that could be used

to answer our questions about management tools in LPEEs.

Our work has certain limitations due to its exploratory nature, particularly in terms of the number of cases examined and the declarative nature of the data. The schools surveyed may have been heterogeneous in terms of size or structure of the teaching staff. Another limitation is that we considered the indicators as a homogeneous block without distinguishing between the different types of indicators (result, means, activity) that can be used in the process of instrumental genesis. This last limitation is consubstantial with the exploratory nature of the study.

These interviews were conducted on the basis of a guide that we refined as the headteachers interviewed spoke in order to give more direction to the interviews, which focused increasingly on the use of performance indicators by the headteachers. They were preceded by secondary data, essentially the online reports of the Inspectorate General of National Education (IGEN), which were of great help to us because they were still based on the collection of field data (reports, interviews with teachers and non-teaching staff, feedback from the education authorities, etc.). The use of performance indicators and the question of appropriation seems to be a constant problem for the IGEN (2009 and 2012).

These semi-structured interviews were conducted in an interactive manner to gain access to the meaning that the actors give to their practices. According to Jolibert *et al.* (2012: p.88), "*the interview is characterized by an interpersonal encounter that gives rise to an essentially verbal interaction: the data collected is therefore co-produced. Moreover, these data are based on representations stored in the respondent's memory: they are therefore reconstructed*". Secondary data (documents on the use of indicators in particular) were also collected and constitute complementary sources of information illustrating the instrumentation methods identified in the interviews with the discourses associated with the approach.

We manually coded the speeches according to two themes, while not straying too far from the theoretical corpus of the appropriation of management

Interviewed Person	Status	Function	Date of interview	Duration
J. K.	Academic inspector	Inspector in charge of secondary schools in the academy	07/07/2016	1 h 03
D. D. <sup>20</sup>	Academic inspector	Dean of the IA-IPR in the academy	17/07/2016	53 minutes
A. D.	High school headmaster	Management staff	14/11/2016	53 minutes
C. F.	High school headmaster	Management staff	09/12/2016	1h03
L. H.	High school headmaster	Management staff	25/11/2016	57 minutes
P. M.	Middle school headmaster	Management staff	13/01/2017	49 minutes
P. M.	High school headmaster	Management staff	28/10/2016	51 minutes
M. M.	High school headmaster	Management staff	25/01/2017	47 minutes
F. B.	High school headmaster	Management staff	25/04/2017	49 minutes
E. B.	High school headmaster	Management staff	03/05/2017	42 minutes
E. G.	High school headmaster	Management staff	14/01/2017	51 minutes
S. B.	High school headmaster	Management staff	23/02/2017	48 minutes
M. B.	Middle school headmaster	Management staff	03/03/2017	46 minutes
A. K.	Middle school headmaster	Management staff	25/04/2017	43 minutes
B. G. <sup>20</sup>	Academy controller	Administration agent	18/12/2016	43 minutes
D. A.	Ministry of Education Sub-director	Inspector general	06/02/2017	52 minutes

Table 1 – Status and function of interviewed persons

<sup>10</sup> Ces deux entretiens ont été menés par téléphone mais ont été enregistrés.

tools to avoid the risk of circularity (Dumez, 2016). These two themes are usefulness (evaluation, measurement, appropriation, change, practices, behavior, work, team) and purpose: reporting and/or steering without prejudging the purpose of the steering. Our vision is intended to be comprehensive and as such aims to make actors act through their intentions and their discourse in order to avoid the risk of abstract actors, in addition to the circularity inherent in any qualitative research.

### 3.2. Local conceptions and uses of performance indicators

We are interested here in the use made of indicators by headteachers, and hence their purpose with regard to teachers. This is why we will speak of an evaluation-control nebula (Gibert, 2010: p.76) that cannot be segmented here.

The deputy director interviewed spoke of pedagogical steering if the head teacher *“has the legitimacy to do so”*. On the subject of indicators, he should *“use them to mobilize, detect causes, put things in place [...] on the basis of the indicators, how do we translate these indicators in terms of avenues that will make it possible to improve things, by making them explicit, getting the educational community to think about them, and using them in the framework of the school project. The role of the GB is to make them explicit to the whole educational community, to make them objective. They must be based on objectives based on indicators. You ask secondary school teachers about the EP indicators, it's a real subject, the degree of involvement in the school project (EP), the teachers feel committed first of all to their discipline, feel accountable first of all within the framework of their discipline. One of the objectives of the indicators would be for teachers to modify their practices accordingly. Through the EP, we know if the pupils are succeeding and give ourselves the means to make them succeed better. The objectives must be operational, measurable. I have seen EPs whose objectives were too vague, such as 'making students succeed'. If we let anyone do anything without the necessary culture, we can have indicators that mean nothing. The DEPP is the data, the interpretation is the field”*.

The DEPP's indicators at the macro or APAE (academic) level are numerous and should allow the CEs to *“do their market”* while being able to construct their own with variable uses, as an IGEN report (2012: p.27) points out:

*“Although the actual use by management staff of national and academic tools for internal school management purposes is not explicitly and systematically monitored by the academies, their observations converge on the fact that all management teams are far from paying the same attention to the data and information available on their school. Alongside headteachers who use and select data on their schools to mobilize teaching and educational teams, others are more reticent or more circumspect, using them at best only for personal information”*.

Indeed, at the level of LPEEs, the indicators favored by the higher levels may appear to be poorly adapted to the internal steering needs of the teaching and educational teams. Expectations are therefore focused on more detailed data relating to the behavior, work and results of pupils (grades and exam success), and on the subsequent success of pupils in terms of their actual orientation.

It is thus in the order of things that schools set up their own system of steering indicators. This approach to adapting to their particular needs must, however, ensure that it respects a minimum of methodological requirements (as emphasized by the deputy director interviewed) and elements of linkage with the priorities of the academic strategy. The Inspectorate General of National Education (2009) shows that:

*“In all the academies, an analysis of the indicators in the management charts produced as part of the contracts of objectives reveals how much the indicators used vary from one school to another”*.

However, even if the nature of the indicators differs, the purpose remains that of a dilemma: reporting versus steering (change, progress) and internally making the indicators operational and giving them sufficient meaning to teachers.

We analyze the verbatim statements of the headteachers interviewed by putting them into

perspective according to the purpose for which the indicators were used, between instrumentation and instrumentalization (in the sense of Rabardel) for the purpose of pre-appropriation by teachers.

### **3.3. The instrumental genesis of indicators at the heart of a dual purpose for the headteacher and variable use schemes<sup>11</sup>**

While meta-control is essentially aimed at accountability, even if an analysis of disruption (Gibert, 2010) remains possible in the context of public policy evaluation, control within the LPEE can have this aim while also having performance management as one of its objectives. To do this, the head teacher must work on the measurement indicators, which must be analyzed in the light of the intentionality of instrumentation by the indicators.

At the macro and meso levels, control is essentially rational (De Vaujany, 2006, Grimand, 2012) or instrumental rationality (Broadbent and Laughlin, 2007).

The purpose is accountability, although disruption analysis allows for policy actions without any agility. Control is used to measure the degree of achievement of objectives, and to do so, it is instrumented for accountability purposes through indicators.

At the micro level, contingency seems to prevail, and our interviews have enabled us to identify three situations that we will present in the form of a metaphor for didactic purposes. According to Châtelain-Ponroy (2010, p.75) *“the metaphorization of the organization [is] indispensable as soon as one seeks to understand an organizational phenomenon or, more globally, to conceive the organization and the multiplicity of its concrete forms”*.

We therefore mobilize the metaphor of the machine for the evaluation-control nebula in the context of the school project and, more specifically, the use of indicators through the analysis of the discourse of school heads.

#### **3.3.1. Managerial instrumentalization of indicators or the "slicing machine"**

A first situation where instrumentation seems to prevail and universalist meta-control and control within the LPEE are agonistic. We describe such a use of indicators as a “slicing machine” for reporting purposes. The question of appropriation of management instruments seems to be an obstacle to a possible lever of control-evaluation for the EP because of a narrow representation of the teaching body's performance, according to a city center headmaster interviewed:

*“As teachers have difficulty in appropriating them (the indicators), I have meetings (informal or formal) that always start on the basis of elements that we are supposed to share. Performance indicators, teachers have difficulty with that, we're on trends, on big figures, they have difficulty getting out of their class, we're on big figures, they have difficulty taking a macro view, the level above... They have a micro view and generalize what they see in their classes to the rest of the school, which is not generally true. So I bring them in and they take it in...”*

*Teachers find it very difficult to go to a school view.*

*We are an inner-city high school with a vision of excellence that does not correspond to reality, the institution does not take into account the public it caters for” (PM, headmaster).*

We can see from this verbatim that the head teacher, even if he or she is trying to work on sensemaking, uses the indicators as *“a machine for making decisions”* (Burchell et al., 1980). In this context, it is more difficult to convince teachers of the value of using them to steer the school from a pedagogical point of view, which sometimes leads them to use the indicator for their own purposes:

*“We take in pupils that we are not supposed to take in, but that makes me lower my rates, our added value is negative because the pupils we take in are either privileged (with pressure from parents or even the institution) who are failing or disadvantaged pupils who are undermining the results. The*

<sup>11</sup> Rabardel (1995, 2005) speaks of patterns of utilization but we prefer the term use in relation to our article.

indicators... With the preparatory classes, it's hard to manage an LPEE, it's complicated to manage by that...

*I think that steering is the right word because the indicators only have meaning in what we want to do with them, but it's not easy. To make them understand that heterogeneity remains an obligatory point of passage, I had to show them the interest of a mix through the indicators. Otherwise, we end up with 100% on one side, which multiplies the difficulties of the pupils and teachers. I believe that there is not one tool but the perception of an audience, there is not one instance. In some cases, there is no other way to go through the general assembly of staff.*

*Concerning the indicators of performance, results... In relation to the success of the pupils in the exam, I use the success rate at the beginning of the school year by showing that we are below the academic and departmental rate, I provoke them a little because it is the one to which they are very sensitive, their image is at stake.*

*I use one indicator according to the message I wish to convey and for communication purposes, but there could be others, such as, for example, the rate of orientation in higher education (derived from the rate pressure), rather to tell them that we are doing an excellent job towards the elite classes, the university... that normally we have very few students who fail... I use the indicators to provoke, to enhance, or to move towards something else" (PM, Highschool headmaster).*

In the latter case, the headteacher is in the position of instrumentalizing the indicators according to the message he or she has to put across and assumes the function of a "slicing machine". These verbatim statements illustrate the "slicing machine" vision of the evaluation-performance control nebula highlighted by Burchell *et al.* The fact that the teaching profession is impervious to the culture of evaluation because of socio-cognitive patterns (high rate of unionization, vision of the profession centered on the subject taught, possible manipulation of indicators, vision of a "pure" public service of education, average age of teachers) opposed to a managerial use of performance indicators may explain this instrumentalization. But the profile, skills and gender of the head

teacher can also be explanatory variables. Similarly, intermediate variables such as size (identified in the literature), the type of school (middle, high or vocational school) and the public served may have an impact on the degree of pre-appropriation by teachers. The rational aspect seems to be in friction with the socio-political aspect, in this case the coalitions of teachers and their representatives (especially trade unions) in the bodies. The logic of honor (D'Iribarne, 1989) on the part of teachers may also explain this rejection of an attempt to put under control even collective activities that they consider can be effectively deployed without being measured. This "culture of honor" would then be in opposition to the culture of evaluation because of the teachers' self-determination and deployment of their tactical options (Trosa, 2012, p.181).

However, we find the essentially rational perspective (de Vaujany, 2006; Grimand, 2012) or instrumental rationality (Broadbent and Laughlin, 2007) of the internal purpose of the use of indicators: between accountability and contingent communication (Janicot, 2007). Broadbent and Laughlin (2007, p.42) explain that in this case, measurement matters through a formal rationality and this tends to precision through quantitative forms. The implicit here is a framework of conformity to a rational and legal authority (the rectorate, the community of affiliation).

### **3.3.2. Interrelationship between instrumentation and the political/cognitive instrumentation of indicators or the "machine for convincing"**

A second situation in which instrumentation seems to be interrelated with instrumentalization in terms of control within the LPEE, in which we describe such a use of indicators as a "convincing machine", appears in the article by Burchell *et al.* A high school headmaster interviewed explicitly refers to the use of indicators as a "persuasion machine":

*"In the framework of the EP, I do not have a single dashboard as some colleagues do, but we have indicators that we have constructed such as the rates of transition between levels that I share with the teachers in general information meetings or*

*in pedagogical councils. I give my reading of the school, then we compare it with the indicators of the rectorate in an extended team (3 teachers) among those who participated in the development of the EP. There was a debate on the second-year pass rate because it gives an alarming figure and we explain why, the context. You are told that your indicator is too high but you have to lower it without giving a target. Sometimes a target can be set, as for the success rates at the baccalaureate. All this is done as a team, we involve the teachers, the CPE, we have to make the indicator talk, explain the figure..."* (AD, headmistress).

One of the head teachers used the indicators proposed by the rectorate but she stated that she had constructed her own indicators during the diagnosis prior to the preparation of the EP: *"I pushed the teachers a little, we went to look at the difference between the marks for the baccalaureate and the one throughout the year, which enabled us to reconstitute a theoretical success rate, even if the APAE indicators are now precise. [...]. We are necessarily part of the academic project, but it remains very general and not very operational [...]. So we propose operational actions such as support for new students entering the lycée in the second year"* (CF, headmistress).

This verbatim perfectly illustrates the "convincing machine" vision of the performance evaluation-control nebula highlighted by Burchell *et al.* The rational perspective is at play with the socio-cognitive and socio-political perspectives (de Vaujany, 2006; Grimand, 2012) that can be gathered in a communicative rationality (Broadbent and Laughlin, 2007). Rabardel's (2005) instrumental genesis is taking shape but the purpose of instrumentation oscillates between accountability and steering of the project. The discourse then always focuses on the pupils, their success, their progress, and this purpose seems to be an important factor in the ability to convince. Depending on the nature, content and depth of the "discussion spaces" (Detchessahar, 2013), these can then lead to "spheres of agreement" at a given moment on socially shared principles of action (Rorty, 1994).

We will make the same remarks as for the previous situation with regard to the explanatory variables (the Inspectorate General thus speaks of the disbelief

of certain teachers with regard to the indicators and asks to see the head teacher's scoreboard, proof that it is possible to convince them) and moderators. The cognitive perspective seems to interact with the socio-political perspective in this case.

### 3.3.3. Cognitivist instrumentation of indicators or the "sensemaking machine"

A third situation where instrumentation based on sensemaking seems to prevail over managerial instrumentalization. We describe such a use of indicators as a "sensemaking machine", according to Boussard and Maugeri (2003). In order to inscribe the pedagogical and educational policy within the LPÉE, a headmistress insists on the role of the governance bodies (board of governors, permanent commission and pedagogical council) giving a collective character to the autonomy and usefulness of the indicators constructed locally to reflect on and elaborate the EP:

*"The indicators that are constructed in LPÉEs are those related to school life and the school climate. There are also pedagogical indicators, such as the time spent by pupils wandering around during lessons, in order to assess the attractiveness of lessons for teachers. There are also the number of exclusions... I look at the teachers' pedagogical evaluations..."*

*For the EP, it is first of all necessary to give oneself real lines of progress which must be shared. This makes it possible to draw up a diagnosis leading to areas of progress based on the indicators we have and which we analyze together. Then we go to the management dialogue at the rectorate with my team. On this basis, the objectives assigned to me in the mission statement will be those of my team and the teaching and school life staff.*

*From the observations we make, it is important to see which levers we can use, and that's where the work begins. We will see if we have activated the right lever or if we made a mistake. For example, we don't perform well in the scientific fields and I compare the students' marks and their results at the baccalaureate. A discrepancy leads me to question*

*the teams and we reflect together on the causes and from there, depending on the problem (starting level, difficulties, etc.), we start work aimed at reassuring the pupils in order to give them the necessary foundations and even work with the local colleges. We will include this in the EP with concrete actions (meetings with colleagues from the colleges), financed or not, meeting times, discussed methods, etc.*

*These actions are piloting, but then we have to ask ourselves if we have been able to move the lines and see the impact on the pupils. Moreover, things are beginning to change among teachers who do not like the word contract very much, but the culture of evaluation is beginning to spread little by little. We also reassure the teams that all this does not impact on their pedagogical freedom, because this is what makes them a bit resistant to evaluation, because it's about judgement. We want to make them reflect on a little distance and reflexivity” (CF, headmistress).*

It is rather a question here of a vision “sensemaking machine” of evaluation-control as Boussard and Maugeri (2003) have shown, representations that can be qualified as social (Jodelet, 2003) for which they are “forms of socially elaborated and shared knowledge having a practical aim and contributing to the construction of a reality common to a social whole” (Jodelet 2003, p.53). The social whole being the LPEE and the EP.

In the two previous cases, the head teacher instruments the performance indicators in the sense of Rabardel (1995, 2005) in a logic of steering educational performance. However, the case of the “sensemaking machine” seems to be more advanced in terms of performance than the second case. The indicators are impacted by the perception of the subjects, since the aim is either to make them reflect on their own practices or to get them to share an observation. Here, the head teachers touch on the psycho-cognitive schemes of the teachers and their symbolic values in relation to the impact of their actions in the framework of the EP. Broadbent and Laughlin (2007, p.44) show that control systems in the public sector based on communicative rationality are more likely to have a positive impact on teachers' behavior. Another headmistress of a rural high school mobilized the indicators as a “sensemaking machine” and

as a “machine for convincing” in order to measure educational performance:

*“The previous EP was not built collectively. My predecessor wanted to do things quickly and had built his EP by tabling it and said now we're doing this, no doubt caught up in time. I tried to build it with the people because otherwise it's the EC's EP, it goes away and there's no more EP. Ideally, you propose things that end up being adhered to through discussions [...] I tell them we try and evaluate if it doesn't suit you, we stop using indicators such as the number of pupils who go on to the second group at the baccalaureate before and after the introduction of a scheme. We improved the success rate at the baccalaureate. The following year we renewed the scheme and one of the most reluctant teachers said that it had always existed, we had been doing it for fifteen years. When the GB leaves, the actions are those of the LPEE, not the GB, integrated by the whole. If you've made things happen, then there will be new objectives afterwards, which is normal. What's interesting is when you've put things in place and it works, people appropriate them and I think that if they don't appropriate them, they can't make them work. You have to make it clear why you're doing it, make it meaningful. Sometimes we go backwards because we feel that we are not on the right track” (AD, headmistress).*

In this case, a political perspective seems to be less combined with a rather individual psycho-cognitive perspective, even if the exchange of practices can nourish the reflexivity of practices in the framework of the school project. Here again, certain variables mentioned in the two previous cases intervene in the process of instrumental genesis and pre-appropriation of the indicators by the teachers. These are the explanatory and moderating variables mentioned above.

## DISCUSSION

At the local level, the situation is far from being fixed between managerial instrumentation based on a rational perspective or instrumentation (“slicing machine”) and instrumentalization based on a combination of the rational and socio-political perspective, whereas a combination seems to appear between the

cognitive and symbolic perspectives through sense-making. Moreover, it is more on the philosophy of design and use that school leaders focus than on their ability to express or convince of a “truth”. This is in line with Hofstede’s (1978, 1981) conclusion on the poverty of the philosophy underlying management control of a cybernetic nature. He already remarked that no (organizational) learning is possible, only controls of a non-cybernetic nature (political control or judgmental control) allow such learning. The metaphor of the “decision machine” is consubstantial with control of a cybernetic nature (indicators are used to make decisions mostly within a formal framework, without questioning their relevance or consistency). We propose the following figure for discussion concerning the local use of performance indicators by the EC.

Our work, although exploratory, makes it possible to give a dynamic aspect to the process of instrumental genesis by showing how to move from instrumentation to instrumentalization of indicators. From a situation where indicators are used for measurement in formal discussions (governance bodies) to measure in order to be accountable, school leaders can move to performance management through representations

in less formal discussions. The indicator artefact (in the context of the school project) is part of a certain instrumentalization (reporting to the supervisory authority and managing the measurement internally) which, once in contact with the teachers (the subjects), can be used as an instrument in the context of performance management. Such management is based on the use of indicators as a “sensemaking machine” type. A real management of sensemaking or pre-appropriation then opens up, aiming in particular to work on teachers’ imaginations, opening up “spaces for discussion” (Detchessahar and Journé, 2007; Detchessahar, 2013). These spaces are inscribed in boundary objects and can lead to real “spheres of agreement” (Rorty, 1994), where each person keeps his or her values, but reaches compromises.

Such compromises are possible thanks to the use of indicators as a “persuasion machine”. The hypothesis put forward here (to be corroborated) would be that, in order to move from one to the other, headteachers use indicators as a “convincing machine”, in other words, a political use of indicators.

The instrumental genesis makes it possible to understand the transition from artefact to management

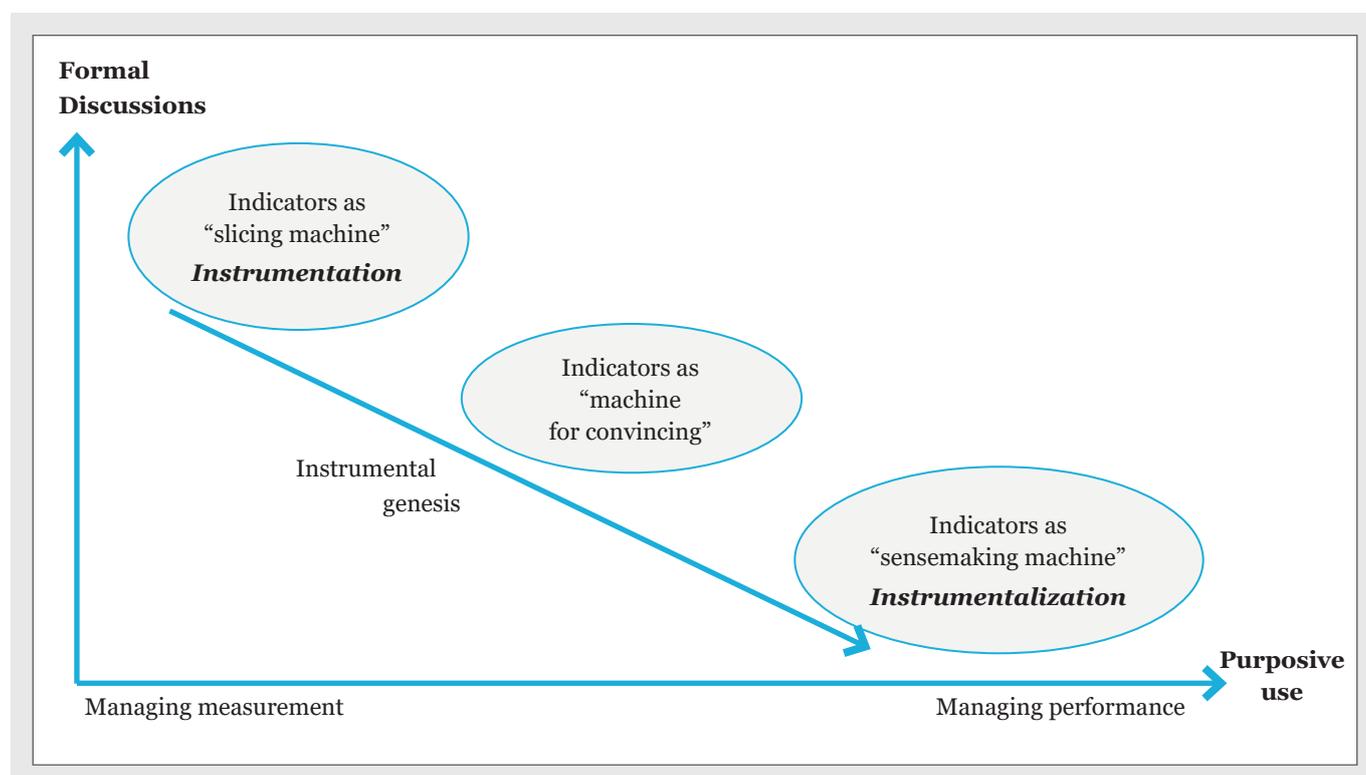


Figure 2 – Instrumental genesis of indicators by head teachers: a metaphorical vision

tool for the school project. The metaphorical vision of the “sensemaking machine” or “machine for convincing” is part of the process of instrumenting the indicators. In this case, there is a possibility of impacting the activity of teachers (“*to reflect on a little distance and reflexivity*” according to the headteachers interviewed) either through management of sensemaking with judgmental control or through a force of conviction with the possibility of control by trial and error (Hofstede, 1981).

However, when it is not possible to use performance indicators as instruments for steering performance, the headteacher mobilizes them as a “decision-making machine” as part of a process of instrumentalization on his part. He gives a different meaning to the one given to indicators for manipulation purposes (“*I provoke them a little because they are very sensitive to it, their image is at stake [...] a Board of Governors can be manipulated thanks to the indicators in particular*”).

## CONCLUSION

From a theoretical point of view, the instrumental approach does not explore the hypothesis or the possibility, for example, that the instrumentalization of the artefact may be oriented towards the subject, as Benzerafa (2007) does in his study of the implementation of the Balance Scorecard (BSC) in the public sector. Similarly, the instrumental genesis approach of Rabardel (2005) seems somewhat static. We have tried to give a dynamic aspect to the instrumental genesis which will have to be corroborated in further studies. A possible research avenue of the study would be to test the hypothesis of the passage from instrumentalization to instrumentation of an artefact or management tool through the socio-political perspective highlighted by De Vaujany (2006). It would then be necessary to see whether the coupling of management tools (between external and internal use) in public organizations can be based on a “convincing machine” or socio-political use.

Conceptually, the machine metaphor can be a powerful tool for understanding the rationalities at play in the public organization regarding the evaluation-control nebula. It has allowed us to give a dynamic character to the instrumental genesis through the metaphorical vision of the use of performance indicators.

From a managerial point of view, while the French Ministry of Education is keen to turn headteachers into real managers and headteachers wish to take on this role, which is granted to them by the autonomy of their establishments, “*the training they are currently given, which is certainly strongly impregnated with management, has not yet paradoxically taken the measure of what is at stake through management mechanisms and remains largely post-bureaucratic in nature*” (Dutercq, 2015, p.47).

The challenge for school heads at managerial level is to encourage genuine management of pre-appropriation, in reality management of sensemaking, while bearing in mind that the indicators must also have an operational scope. Generally speaking, school directors must be trained in measurement management and in management of performance sensemaking and discussion (Detchessahar, 2013). The question of training CEs in this type of management within the framework of management devices, tools or artefacts

remains open in the context of their ongoing management and steering training.

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