Governance and management of schools and digital educational projects: main lessons learned from the ANGE Project regarding their interactions

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Introduction

The ANGE project (Anchoring the Digital in the Governance of Institutions) "focuses on the study of the anchoring of the digital in the governance of middle and high schools, as well as the transformations it induces". Based on action research organized in classlabs, it therefore questions the capacity of the deployment of digital technologies in the pedagogical practices of schools to constitute a lift for transforming their relationships with their stakeholders (governance), their steering (management) and, more broadly, their operation.

Three main research questions guided the ANGE project:

- Does the deployment of innovative projects linked to digital technology have an impact on the governance of institutions, by making it more participatory?
- Does the classlab Ange approach promote the development and success of innovation projects?
- Does the classlab Ange approach allow all the actors involved to gain skills and thus participate in their professional development?

The purpose of this research report is primarily to provide proposed answers to the first question and, more indirectly, to the other two, while being aware of its limitations.

Indeed, the 4 schools studied offer a wide variety of situations from all points of view. First of all, they are located in 4 different countries and are therefore in institutional and educational systems whose characteristics are heterogeneous, especially in terms of the centralization or decentralization of their operation in relation to their respective supervisory ministries and therefore in terms of decision-making autonomy vis-à-vis their internal and external stakeholders.

Secondly, their specific characteristics are not homogeneous either, notably in terms of size, speciality (general, international or professional), geographical location (rural or urban), experience in terms of participation in European projects and/or experience in digital education.

Finally, the interviews conducted concerned a limited number of actors: each time, the head of the school and one or two members of the pedagogical team most involved in the project.

Our late integration, in the last phase of the ANGE project, and the health situation since March 2020, have not allowed us to have more perspective on the evolution of the projects carried out in each establishment and at the same time to participate in the regular groupings of the actors of these projects. Therefore, our analysis is mainly based on interviews aimed at making an assessment, at the end of the project, of its progress in conjunction with the management of the establishment.

In a complementary way, we base ourselves on the analyses carried out by Jean Duchaine, for each establishment, "from the initial intentions to the different phases of implementation of the experiment". By crossing our interviews and these analyses, we will propose below a transversal analysis of the lessons that we can try to draw from these projects in terms of change management and support.

We also wish to discuss the interactions between the institution's strategic management (or governance), its operational management and project management: how do the usual managerial practices, prior to the project, influence the conditions of its deployment and how does the management of this deployment challenge the usual managerial practices? What are the effects of the institutions' participation in the ANGE project on their relationship with their internal and external stakeholders, and therefore on the governance of the institution?

In order to structure the presentation of our results, we have chosen to mobilize the theoretical framework of the contextualist approach to change, which we will present very briefly in the first part. The objectives and content of the ANGE project will then be recalled as they constitute the main common point of the participating institutions: the steering and animation system of this project created physical and virtual spaces where the actors of each institution puts, where they exchanged ideas and practices and where they were able to co-construct common working methods. Finally, we will show, in the following chapters, how their environment as well as their managerial practices of establishment and project constitute explanatory factors enlightening the conditions of deployment of educational digital projects.

1) Synthetic presentation of the general theoretical framework of the analysis: change management and contextualist approach

If change, inherent to all forms of life, is an omnipresent phenomenon in human societies, the development of a field of knowledge and methods aimed at understanding its dynamics and trying to better control it takes shape in the twentieth century. The problem of implementing the missions entrusted to organizations thus gives rise to management (or administration), while the need to adapt them regularly to changes in their environment, while considering the human factor, is arousing interest in "change management". A body of knowledge and formalized practices in change management developed from the 1990s onwards, with the proliferation of major structuring projects whose results were mostly disappointing in relation to initial expectations (in particular numerous mergers, reorganizations and the deployment of integrated information systems). Thus, beyond the legal and technical difficulties induced by the implementation of these projects, the human factor appears to be a major factor of complexity and uncertainty.

Thus, the purpose of change management is twofold:

- Attempt to best achieve the objectives of the change project (in terms of efficiency, costs, deadlines) and/or to create a favourable context for the emergence of desirable changes;

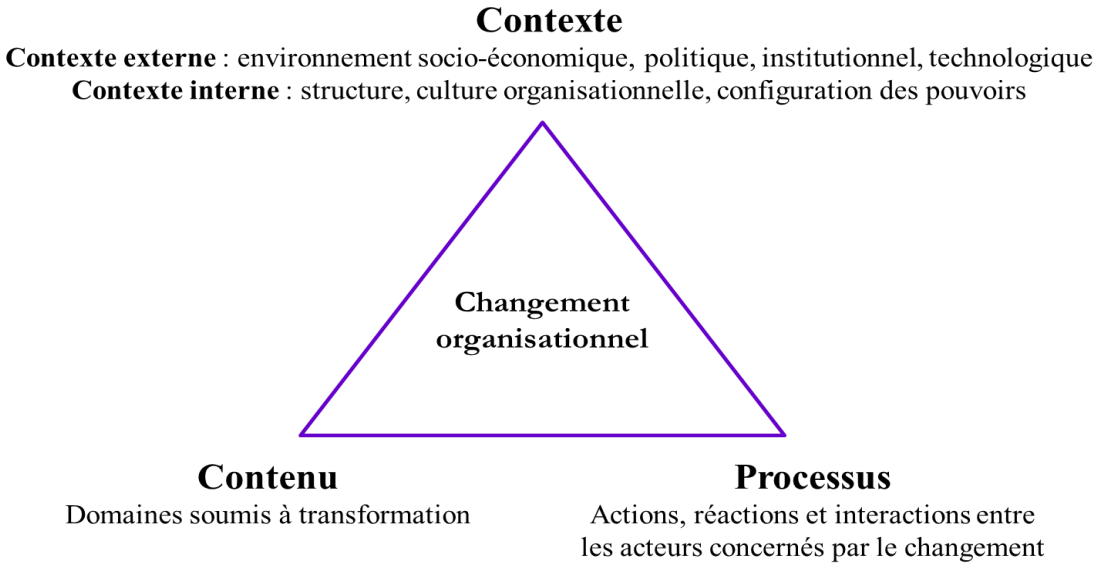
- involve the stakeholders concerned so that at best they are active contributors (or even initiators) or at worst the psychosocial risks and negative effects of change are minimized.

Knowledge in change management comes essentially from a crossover between notions from the field of human and social sciences mobilized in the theory of organizations, organizational behavior and management with the observation and analysis of concrete situations of change.

Thus, the crossed views of professionals and consultants with those of researchers offer a significant production of case studies, studies, analyses and recommendations, both nationally and internationally. For example, in the French-speaking world, the work of D. Autissier et al. (2016, 2018), C. Bareil (2008, 2012, 2019), P. Bernoux (2011), I. Brouwers (1997), F. Dupuy (2020), F. Pichault (2013), R. Soparnot (2004) or A. Vas (2005) are as much academic as they are prescriptive.

The contextualist approach to change (Petttigrew, 1990) allows us to address the questions it raises from a systemic perspective, namely: what are the issues at stake in change, in what context does it occur and with what effects on its content and process? What is the area undergoing transformation and for what purposes? Who are the stakeholders, what are their concerns about the change, what effects can they expect and what behaviors should they adopt? What is the most appropriate process for implementing the desired change in the best possible way? How can we ensure the sustainability of the changes implemented and how can we ensure that the negative effects of the changes are minimized?

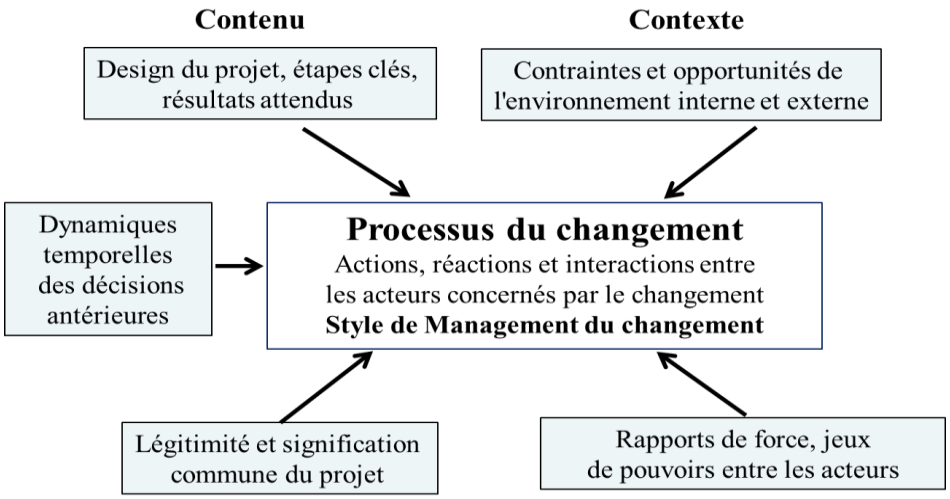
The contextualist approach considers change not as a more or less articulated sequence of events over a given period of time, but aims to "make explicit the mechanisms and processes through which this change has come about". It makes it possible to highlight "the contexts in which change emerges, the antecedents that give it meaning, while tracing over time the way in which it is maintained, transformed and eventually disappears" (Brouwers et al., 1997, p. 29). From this perspective, three dimensions make it possible to apprehend, through their interactions, the dynamics of change: context, content and process.



Adapted from I. Brouwers et al. 1997

Each pole represents an essential dimension for understanding the historical and process dimensions of change. Sequences of continuous and interdependent actions and events make up the process, and provide a better understanding of the different aspects of the emergence of change. In this model, the interactions between internal and external actors and contingency

factors help shape the change process, which itself contributes to the evolution of certain aspects. These factors are therefore not only static constraints but are also potentially affected by the change process. Thus, the context is partly a given that is imposed on the change process and partly constructed by it. The perceptions, representations and concerns of stakeholders also contribute to constructing the organizational context and have a direct influence on the content and process of change, as shown in the diagram below.



Adapted from F. Pichault (2013) and I. Brouwers et al (1997)

Thus, resolutely systemic, the contextualist approach to change "seeks to explain how variations in the organizational context over time, combined with events (changes), contribute to forging organizational practices and making them evolve" (Brouwers et al., 1997, p. 28).

2) **Presentation of the ANGE project**

ANGE, a European ERASMUS project for the Anchoring of Digital in the Governance of Institutions, which brings together 9 European and Quebec partners: universities, high schools, training centers, network of institutions.

The starting point of the ANGE project is to study the way in which the deployment of digital technology in the framework of pedagogical and/or organizational experimentation projects can have significant effects on both the governance and management of schools. On the role of the actors but also on the development of their skills and more broadly on their professional development.

To achieve this, for more than three years, the leaders, dozens of teachers and hundreds of students from the schools involved in the project have been experimenting, implementing and piloting digital transformations in four European schools in Finland, Belgium, France and Bulgaria. Although they have different characteristics and institutional environments, these schools have initiated comparable pedagogical, organizational and/or managerial experiments, in which digital technology plays a central role. They have all also been led to ask themselves questions of a

similar nature in terms of governance, steering, leadership and professional development throughout the course of the project. Finally, they also had to make choices in terms of equipment and digital applications to serve their educational projects, whether they involve the development of reverse classes, workshops and/or projects, but also different forms of student evaluation (self-evaluation, peer-to-peer, diagnosis, formative or digitized summative).

These experimenters were accompanied by a pan-European and international team of researchers and trainers from Romania, Spain, Quebec and France. Taking the form of an action research organized in classlabs working face-to-face or remotely, the ANGE project has resulted in regular meetings allowing structured exchanges and training in connection with the experiments undertaken so that everyone can learn from each other, develop common working methods, to advance their thinking and productions in the service of digital educational projects conducted in each institution. The participants were thus able to discover new work situations and acquire new skills, listed in a common repository of skills co-constructed by all the actors of the project.

The experimentation approaches in terms of digital technology for education that were initiated by the institutions were pre-existing (at least in the form of an intention) to their involvement in the project. However, it was an opportunity to accelerate these approaches through formalization, productions, steering committees, regular reporting to the actors of the ANGE project in order to feed the collective learning of its members regarding the lessons learned from the experiments.

3) **The importance of the external and internal context of the school as a major contingency factor in the deployment of an educational digital project.**

As indicated in the introduction, the four institutions studied are quite heterogeneous, both in terms of their external environment and their internal characteristics and operating methods. These elements constitute contingency factors which, without being deterministic, influence the implementation of the digital projects resulting from their participation in the ANGE project. It is therefore appropriate to identify these elements and to try to estimate to what extent they affect positively, negatively or remain neutral in the implementation of digital projects.

a) The external environment of the institution: more or less supportive institutional and local contexts

The issue of digital development for pedagogy in schools is a topical issue in the four countries and is attracting the interest of different stakeholders, but to different degrees.

It is sometimes driven by national reforms, such as in Finland, which aim to support the implementation of a new national curriculum for high school students reflecting a growing concern for the digital world, notably through the introduction of digitized final exams for all high school subjects via the integration of online exams on a national platform. Nevertheless, the functioning of the Finnish education system is decentralized at the local level: a team of teachers determines the educational path of students and this work is then approved by a municipal

council dedicated to education in the municipality, all within a general national framework. Thus, for the Noviada Lukio High School (NL), the ANGE project is a complementary contribution, especially in terms of methodology and international comparison, to an approach framed nationally but developed by volunteer teachers wishing to mobilize digital tools in their pedagogy.

For the ZAWM vocational training center in Saint-Vith, Belgium, it is essentially a question of adapting the pedagogy of its training courses to the needs of the companies that host its apprentices and send their employees on training courses, and to the changing expectations of young people due to the role of digital technology in daily and professional life. The CFA's mode of operation appears to be highly decentralized and above all influenced by the expectations of its closest stakeholders: the companies that host (and then recruit) the learners, whose changing needs and behaviors are also an important factor in developing the use of digital tools in training. ZAWM is also in regular contact with comparable schools that are experiencing the same developments and facing the same challenges, which enable it to identify common concerns in terms of pedagogy, to move forward together and create a form of emulation. This is facilitated by the fact that teachers are working simultaneously in different schools in the region. Finally, former students contribute to accompanying these changes because some of them also become self-employed, recruit apprentices and support them in a way that is consistent with the school's teaching methods. In this context, regular national reforms, linked to changes in government, are essentially perceived as too frequent and are a hindrance to pedagogical innovations. Thus, they appear to be time-consuming and to entertain the energy of educational stakeholders from a continuous effort to evaluate teaching practices.

Concerning the G.S. Rakovski High School (GSR) in Bourgas, Bulgaria, the national level appears to be essentially an incentive and promotes innovative pedagogical actions, notably via a national project for an innovative school where digital technology plays an important role. The Bulgarian State also requires schools to set up educational support systems for students who are "unable to wait" in order to prepare them as well as possible for national exams and competitions. However, the development of digital tools that promote distance learning and support would enable them to take over from the current unsatisfactory systems. This is an incentive element that accentuates the legitimacy of the development of educational digital projects. Nevertheless, the regulatory framework concerning the considering of distance learning activities, via digital tools, is not yet aligned with their development, which poses problems of taking these activities into account in the service of teachers.

Finally, the College-High School Paul Claudel d'Hulst (PCH) in Paris is a private Catholic establishment under contract which must therefore deal with two guardianships: on the one hand, the Ministry of National Education, which finances and supervises private establishments under contract in a manner comparable to public establishments, and on the other hand, the General Secretariat for Catholic Education, in particular on administrative , pedagogical and pastoral questions proper to Catholic education. These two institutions do not seem to have a direct impact on the involvement of PCH in the ANGE project, and more broadly in the development of educational digital projects. They would nevertheless have the possibility to contribute to the impulse of initiatives in this field through calls for projects or national plans of development and investment, notably in the area of teacher training or support for the

equipment of schools. Local and regional authorities can contribute to improving the technical infrastructure and equipment of schools and students, for example through the deployment of the "digital schoolbag" for students. However, replacing textbooks with tablets or laptops equipped with digital textbooks is not without its difficulties. Teachers and families need to be prepared for this change, as it contributes to changing the way schools learn in the classroom and in the home. Thus, such a change requires coordination between stakeholders, which is often very imperfect and proves to be at least as destabilizing as it contributes to pedagogical innovation projects. Moreover, it is also highlighted that the structural reforms regularly undertaken by the Ministry tend to polarize the attention of the stakeholders and focus energies to the detriment of internal developments that would be more incremental, especially in terms of pedagogical practices.

In conclusion, the actors interviewed in the four institutions noted that the external institutional environment is relatively favorable to the development of digital educational projects, but recurring national reforms and regulatory and budgetary constraints are significant obstacles.

In fact, everyone has noticed that the development of digital tools and their uses in our societies is exerting a diffuse, but increasingly sensitive pressure to integrate them into pedagogy. Nevertheless, with what means, at what pace, in what way and to what extent? This issue is not addressed in a global way by public and supervisory institutions. At best, they create incentives and support for local initiatives or deploy specific means in the form of master plans, equipment plans, platforms or digital work environments, with varying degrees of performance. However, without a global and systemic approach, these means are difficult to integrate coherently with existing structures (both organizational and technical) and pedagogical practices. Moreover, as students already spend a lot of time in front of their screens on a daily basis, teachers and families sometimes express their anxiety, or even hostility, to the fact that even more time is spent in the context of school learning. Thus, the institutional and societal environment appears to be quite ambivalent as a factor influencing the development of digital educational projects: it appears to be a strong incentive, but the nature and conditions of deployment of such projects appear to be largely undetermined in the face of the difficulties of a material and human nature that they encounter.

The characteristics of the educational institution in which such projects are initiated are another contingency factor to be considered.

b) **The internal environment of the institution: more or less facilitating characteristics**

When asked about the internal stakeholders that are important for the dynamics of digital projects such as those developed in the framework of ANGE, our interlocutors mainly refer to teachers, students and their families. The internal governance bodies of schools (such as Boards of Directors, pedagogical committees or other animation or decision-making mechanisms) are not spontaneously evoked, except in the case of PCH. In the case of the latter, the OGEC is an essential stakeholder for the functioning of the school, especially for allocating its own resources to projects. In this context, PCH's participation in the ANGE project had a decisive impact in legitimizing to the OGEC Board of Directors the financing of equipment dedicated to the creation of a learning lab (e.g. equipment in mobile carts, adequate furniture, shelves, PCs, etc.). Without

this dedicated budget allocation, the project could not have been initiated in this form. In addition, we will come back later on to the fact that PCH was reorganized following the merger of two establishments with heterogeneous characteristics, shortly before its participation in the ANGE project, and that a new head of establishment, who was the first in this position, took over the management of the project. The ANGE project is therefore a minor (but not without stakes) aspect of a highly structuring change project within the framework of a new strategic establishment project.[1]

For all institutions, the issue of mobilizing volunteer teachers to contribute to the project is essential. Each time, it is a question of a few teachers, already involved in more or less formalized approaches to pedagogical innovation, who are embedded in the project and constitute its driving force. The fact of integrating a European project like ANGE appears to be both a means of enhancing and deepening approaches already initiated, of better formalizing them, but also of involving new actors and experimenting with new avenues of action. The fact of meeting management and educational teams from other countries and sharing questions and experiences is an important motivating factor unanimously expressed by our interlocutors. They are looking forward both to exchanging on concrete examples of the use of digital tools aimed at changing their teaching practices and to taking a step back from the methods of student evaluation. Thus, the exchanges during meetings between participants of the ANGE project (including academics) allowed them to reflect on alternative methods of evaluating students to the traditional evaluation centered on their knowledge. For example, the evaluation of their learning to learn skills, which is consistent with the reverse class where students learn how to find credible sources on the internet and how to exploit them. This openness, both international and academic, is a complementary element to stimulate the participating pedagogical teams, who can then relay this knowledge to their colleagues and try to mobilize them more effectively.

Indeed, the main internal obstacle that is highlighted by all our interlocutors is the availability of the pedagogical teams to free up time to participate in workshops, animations, training sessions or other participatory devices aiming to encourage and accompany them in the evolution of their pedagogical practices, in particular via digital means. This availability is at the same time an objective problem of temporal availability but also a problem of cognitive availability and/or willingness to re-interview one's pedagogical practices. And not without arguments: recurrent reforms and time-consuming curriculum changes, the increasing weight of time devoted to student evaluation and correction, difficulty in finding niches where a significant number of teachers are available at the same time, disciplinary specificities that make the mobilization of such tools more or less relevant, whose added value is not always, obvious problems (unstable networks, equipment or applications), or aversion to these tools...

[1] The Catholic Educational Management Organizations (OGEC) are the legal, economic and financial supports of Catholic educational institutions. Responsible for the economic, financial and social management of the establishment, the OGEC exercises this function considering the establishment project, the Statute of Catholic Education, and the supervisory authority. The OGEC is the employer of the headmaster and of non-contract staff (not paid by the State). As associations under the law of 1901, the OGECs are composed of volunteers (parents, school relations recognized for their skills in terms of management). Source Www.apel.fr/scolarite/lenseignement-catholique/letablissement-scolaire/lorganisme-de-gestion-ogec.html

Thus, a necessary (but not sufficient) condition for hoping to disseminate new pedagogical practices more widely, beyond a few experiments carried out by convinced, even passionate, teachers, is first of all to offer an adapted material environment, especially in terms of room layout and technical configurations. Our interlocutors have systematically expressed to us the importance of offering technical security, and if possible comfort, to users so that this parameter is not a source of concern when they use digital tools.

The other condition for hoping to make pedagogical practices evolve, progressively and durably, is to be able to mobilize a few committed teachers who master and have experimented in class with the tools and methods that we wish to deploy more widely. This presupposes that these people are able to devote time to train and support other teachers in new pedagogical practices, and that the latter consider these evolutions legitimate and accept such support. In view of the pedagogical autonomy of teachers, the organization of their working time and the importance of disciplinary identities, this is not at all obvious. All the more so since the means to enhance the commitment of teachers in this process of support and evolution of pedagogical practices are essentially symbolic.

Students, and to a lesser extent their families, are an essential stakeholder in educational digital projects since they are the beneficiaries of the pedagogical evolutions experienced. Concerning the students, the use of digital tools in class (or upstream to prepare an inverted class), at a distance for specific teaching or support or during evaluations, seems to go in the direction of the increasing presence of these tools in their daily life. These uses are all the most valued when they are factors of interaction at the service of an active pedagogy, alternating moments when students search and do by themselves (alone or in autonomous or accompanied teams), and moments of exchange, debate, presentations or more ""masterful framing on the part of teachers. In their own specific context, all schools therefore face a real challenge with regard to the students to develop teaching methods in order to make them all the more involved and actors in their training. Nevertheless, the question of the means made available to them in the school (premises, digital tools, stable Internet connection, adapted software) constitutes a first difficulty because it assumes an important and regular investment to ensure its functioning and evolution. In addition, there is the question of personal equipment, within the families, of the students as well as their access to an Internet connection. While the equipment can be loaned out as part of local authority support plans, this is not systematic, complex to manage and does not solve the problem of access for all to a good quality Internet connection. Finally, families may be reluctant to see the development of the use of digital tools for educational purposes outside the classroom for two main reasons mentioned by our interlocutors, in addition to the additional financial efforts that this could hack. On the one hand, their children often have too much screen time, which would be increased by the use of digital tools to prepare their lessons and do their homework. On the other hand, parents unfamiliar with these tools and who would be all the more difficult to accompany and/or control the work done by their children.

These different contextual factors around and within the institution are contingency factors that influence its relations with its stakeholders, and therefore its strategic and operational management. Nevertheless, they are not deterministic, i.e. they do not mechanically lead to the choice of this or that method of managing the establishment and the projects initiated there.

4) The characteristics of the school's strategic management: brakes, drivers and new opportunities for interaction with stakeholders

We have highlighted the influence of context on the dynamics of developing and deploying educational digital projects. Some elements of this context are independent of the field of action of school heads (e.g. the regulatory framework, national reforms, technical developments...) even if they may have room for interpretation and maneuver in the way they integrate them into their schools. Others relate, at least in part, to the way they interact with their external and internal stakeholders, in other words the way they strategically manage their school on a daily basis. In this case, the aim is to develop (in a more or less formalized manner) and implement a strategic project to carry out its missions, which is, on the one hand, a local version of the orientations of its supervisory authority and, on the other hand, voluntary local initiatives from management, in interaction with its main stakeholders. Participation in the ANGE project is part of the latter logic and provides an opportunity for the management teams of the establishments to contribute to their establishment project in a way and at a time that is deemed appropriate. This participation is also an opportunity to develop project management methods whose necessarily collegial, participatory and transversal character naturally articulates with a comparable daily management or to challenge a more centralized or, conversely, backward management.

A. The strategic and daily management of the head of establishment: practices aligned or called into question by the management of the digital project and support for its integration into teaching practices.

In terms of strategic establishment management, the four establishments offer three distinct types of managerial positioning of the head of school. None is, in absolute terms, more desirable or efficient than another, but it may be less facilitating in the process of developing and deploying a digital project aimed at changing educational practices.

In the case of NL and ZAWM, the choice ofleaders to get involved in the ANGE projectseems to be strongly influenced by the opportunity of this project to structure and accelerate the response that their institutions must bring to pressures from their external environment. In the first case, the urgent implementation of a reform of student evaluation involving the systematic use of digital tools, in the second a strong awareness that it was necessary to meet the explicit expectations of the host companies of apprentice students regarding the mastery of digital tools in the exercise of their profession and to adapt pedagogy to the changing expectations of young people. In both cases, the leaders are not involved in the pedagogical aspect of the project but are in support of acquiring the resources necessary for its implementation and more broadly to create the conditions for the development of pedagogical experiments by volunteer teachers. Their management focuses on relations with external stakeholders, particularly in the case of ZAWM where the head of the school uses his school's participation in the ANGE project as a lever to accelerate the dissemination of digital educational tools in professional teachings in order to improve its positioning vis-à-vis the companies that welcome its apprentices and that are major stakeholders. Onthe other hand, on the administrative and financial aspects of their institution,

which operates quite autonomously from supervisory authorities that set fairly broad regulatory frameworks. Thus, a project like ANGE helps to stimulate voluntary teacher initiatives, to structure their actions a little more and to enhance them, but without interfering with the usual role of the leader with teachers.

Regarding PCH, the ANGE project is initiated in a particular context of fusion between two institutions which originallyorigine, had different characteristics (welcomed audiences, professional cultures, parental expectations...). The main mission of the newly arrived head of school is therefore to ensure the success of this complex merger where prestigious but old premises coexist, and a new building that offers the opportunity to develop a "learning lab" adapted to educational experiments mobilizing digital tools. Taking over a new institution by a head of school whose first position in this position is, always a challenge. This is all the more important when it comes to building an establishment project setting new guidelines and a new operating framework for all stakeholders of the merged institution. The development of such a project is a key factor in the success of the process of accompanying the major change that constitutes this merger. This particular internal context has a major influence on the management of the establishment but also on the positioning and dynamics of the ANGE project. Indeed, in conjunction with the creation of the "learnig lab", the participation of an educational team in this project allows to highlight the potentially unifying nature of digital technology to help bring together pedagogical practices aimed at taking care of students with more heterogeneous characteristics than before. The fact that teachers from the two former schools met occasionally to discuss the use of new teaching tools also provides fertile ground for identifying project participants. Finally, the recruitment of a new teacher,, one of whose missions is to ensure the animation of the ANGE steering committee, is a complementary factor that helps to give this project a potentially structuring aspect in the implementation of the new school project. Thus, the development of new pedagogical practices around digital represents a real managerial challenge for the head of school, especially since his board of directors has granted him dedicated resources to acquire equipment.

The project then appears to be a potentially important but minor brick in view of the other changes in progress, especially the implementation of the new school project but also the reform of the high school and the baccalaureate. In the face of such changes to be led, it seems legitimate for a head of school to seek to control the situation through a rather direct management that can help to reassure the actors and channel their actions in the proper direction through the mobilization of planning and coordination mechanisms. Nevertheless, it is difficult to make such management coexist with the animation of a project team that requires a strong delegation and the development of a context conducive to cooperation, even collaboration, between actors mobilizing to experiment and innovate. Thus, a strong impulse and involvement of management in such a project is an easier element to launch it and legitimize it with stakeholders. Nevertheless, it can also be a hindrance to its development if it appears too intrusive in terms of its orientations and control, even if, de facto, the participants have a fairly broad autonomy in their actions.

Finally, GSR has been used, to designing and participating in Europeanprojects, particularly in the field of digital education, for the past twenty years. The ANGE project is then articulated in a complementary way with the current projects, and this in a national context where the issue of the development of digital tools in les établissement schools is encouraged. The operation in project mode is therefore familiar to the school's teams: creating newteachingresources and experimenting with new methods of working with students are practices that are no longer part of experimentation. They are fully integrated into the school's usual management, especially since it has teachers fordistance education, dedicated resources and d'a culture of exchangeof practices in workshops where questions onadoptions, methodologies and digital are addressed. des questions sur les ap The management of the establishment appears to be particularly favourable to the emergence and sustainability of such practices. Indeed, its delegative character,, and based on horizontal cooperation rather than hierarchical coordination,, is entirely consistent with the project mode and the creation of a favourable context for innovation and collaboration. The head of the school has been in the position for many years, in an attractive institution and which seems to benefit from a relatively stable environment which allows its actors to focus on continuous improvement of its pedagogical functioning. Although certain elements of context are obstacles to the development of the use of digital pedagogical tools (regulation, technical difficulties in the school and withinthestudents' family), the relationships of trust that seem to be established between management, administrative teams and teachers constitute an internal context particularly conducive to the development of innovative projects. Thus, in the context of projects but also outside, teachers form working groups to carry out collective productions. This collective work allows everyone to turn to their colleagues to solve difficulties with certain tools or methods of work. Once installed, this mode of operation strengthens the mode of delegated management and consolidates collaborative practices between the institution's stakeholders. Indeed, delegating means being able to share with the staff the meaning and the framework of the missions to be accomplished, the methods being left to their discernment.

However, this means ensuring that they are able to assume that autonomy and feel responsible for the results and effects produced. This cannot be decreed and is built gradually, especially through daily interpersonal relationships and the regular development of informal and formal projects, promoting collaborative work.

a. Between project management and "gardener's strategy": from organizing the deployment of new devices to creating a context for the emergence of new practices and their ownership

The four institutions studied show that deliberate and emerging projects are not mutually exclusive but tend to strengthen. Thus, the existence of a regular practice of collectivework, in small teams,, self-formed spontaneously by teachers, constitutes an environment conducive to the development of more formalized projects. We can see that in all of these cases, the majority of the participants in the ANGE project had already participated in working groups and were familiar with the project logic. Symmetrically, institutions that regularly initiate more formalized projects, multiply the opportunities to integrate teachers interested in the topic and introduce

them to the collaborative way of working. The combination of these two modes of operation in project teams contributes to the development of a culture of peer exchange,inter-help and educational innovation. It thus creates a favourable context for the emergence of local initiatives but also for participation in more institutional projects, such as ANGE, which come to be linked to existing projects and allow to develop collective skills of project management and support for change.

Indeed, it appears that, without institutional support from management, the spontaneous initiatives of a few teachers to create spaces for the exchange of innovative teaching practices quickly find their limits. This support can be indirect, through the provision of resources and organizational arrangements that promote the emergence and development of such initiatives. These actions are not initiated or even formally validated by management, but management considers that they contribute usefully to the implementation of the settlement project. It therefore gives these initiatives the material and symbolic means to continue their development while ensuring that they do not go beyond the overall framework set by the institution.

This approach, described here as the "gardener's strategy" in reference toF. Julien's (2010)"island transformations"),is an essential step in the emergence of innovation projects within an organization but is generally insufficient to ensure more widespread dissemination within the institution. Indeed, the development and implementation of more formalized and structuring projects, such as ANGE, provide opportunities to accelerate and institutionalizelocal initiatives.

First of all,such projects are an opportunity to obtain the allocation,, by the decision-making bodies in budgetary matters, of dedicated resources that were not in the endowments of the establishment: improvement of the Internet network, acquisition of digital equipment and applications, layout of rooms, recruitment of specialized staff ... However, the weakness of these means is systematically pointed out as an important obstacle to the development of pedagogical pedagogical practicesaround digital.

Secondly, participation in multi-institutionalprojects, and integrating other actors (such as researchers), is an opportunity for theparticipants urto get out of their purely local problems and practices and to be confronted with other experiences. This shows that theeteachings issues are widely shared, but the ways of defining and dealing with them are plural: debates, exchanges, demonstrations, the construction of common analysis grids are all times of sharing, at joint events, which help to open the field of possibilities for the participants and allow them to return to their institution with new ideas that they can in turn share with their colleagues.

Finally, the, potentially illuminatinge and energizinge nature of such a projectis complementede by its structuring aspect, from a methodological point of view. The aim is to collectively build the project's expectations and formalize them in the form of deliverables at the end of the project. Reflections on the content of the project are a crucial step in defining its meaning and contours: what is the nature of the problem to be addressed and what direction should we take to develop elements of response? Added to this is the temporal dimension, with a known deadline in advance, which requires the project to be sequenced in intermediate stages, to identify the risks that will have to be anticipated and the means necessary to achieve it. On the one hand, those necessary for the smooth running of the ANGE project as a whole (project governance, travel and

meeting costs, enhancement and dissemination of results), on the other hand those that its actors will have to obtain locally for its concrete variations that require specific financial support. Participation in such a project is a powerful legitimization lever for such support.

However, it is important to ensure that projects initiated by management reinforce, not replace, local dynamics that are considered positive. The structuring nature of projects carried out by management should not sterilize local initiatives but rather support them, consolidating them and promoting their dissemination. Indeed, once the project is formally completed, it is the dynamic created locally that will allow, or not, to continue the process of educational innovations, their dissemination within the school and their adoption by the teams, until they become a new normal. The results of the interviews with local stakeholders in the ANGE project show that, although channelled by some of the project's expectations, their operation has remained largely based on volunteerism and informal exchanges, if not through more regular periodicity, more elaborate milestones via reports and more visible management support.

If the institutions studied show that their participation in the ANGE project has a real energizing and structuring effect during their participation, the maintenance of such a dynamic is never assured. Other even more structuring events, such as reforms or significant structural changes within institutions, potentially "parasitize" educational innovation projects by focusing the educational community on other particularly time-consuming topics. Thus, the project mode, inherently horizontal, often struggles to resist injunctions or events of a vertical and imperious nature that divert attentions and energies.

2) The place of accompanying change in the deployment of a digital educational project: a cohesiveand articulate process, from the construction of the project to the anchoring of new practices?

The development and deployment of projects aimed at changing pedagogical practicesis, as a mainmatter, the field of educational sciences but also, in a complementary way, management sciences and management. Indeed, they are interested in the conduct and organization of the finalized collective action. However, whether they are emerging or directed, such projects involve, directly or indirectly, the heads of schools whose management will have an influence on their progress. It is the nature of their levers of action, as initiators and/or facilitator of the changes induced by such projects, that we will analyze.

a. Directed, organized, continuous or proposed change: a starting point that determines the deployment process

The sociology of organizations, notably through the work of Philippe Bernoux (2011), offers us a general definition of organizational change that "consists in a transformation of relations with others. It results in the creation of new rules (...) To change is to transform the ways of doing things, the relationships, the statutes.".

Thus, change within an organization can be seen as an informal and/or formal process materialized by :

- a set of evolutions, uncontrollable, edoused and progressive (even diffuse) representations, includesents, practices, even the values of the actors of the organization;

- youdo sequence of steps, to master, leading to the deployment or transformation of formal devices (structures, rules, tools ...) whose purpose is to channel the behaviour and actions of the members of the organization in the direction expected by its management.

The latter is part of a rather instrumental approach to management and change: it focuses on the methods that enable it to be developed and then deployed through rational methods (strategic plans, action plans, budget management, project management, procedures, tools, etc.). It is the prescribed organization.

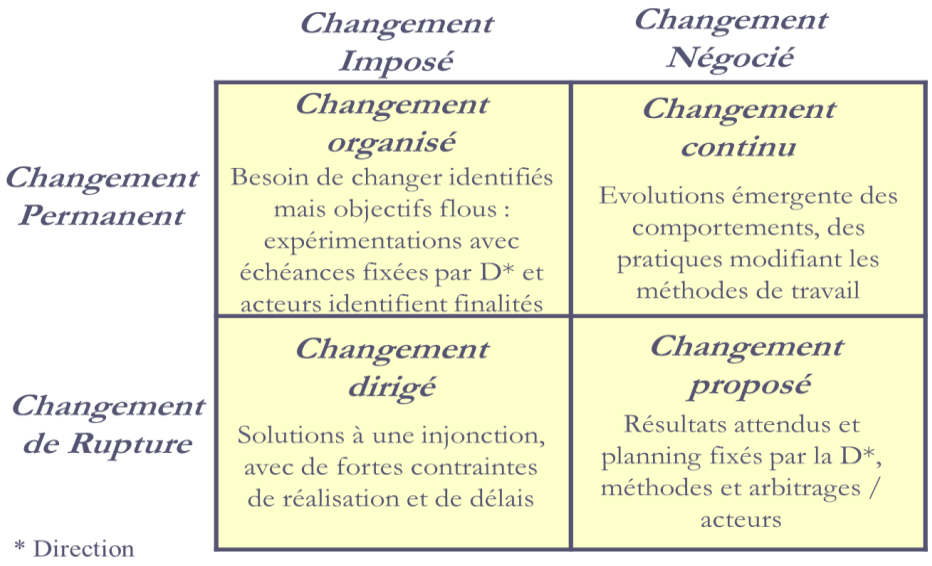
The first is a more constructivist approach that considers the organization to be the product of all the recurring behaviours of its members, according to the meaning they give to their work, their preferences, their individual and collective values. It is the real organization whose characteristics are influenced by the prescribed organization that sets a more or less restrictive framework.

If we accept the coexistence of these two sides of the same organization, the role of those who are responsible for it is to operate a "joint regulation" (Reynaud, 1997) between, on the one hand control regulation, on the other hand autonomous regulation in order to reach a necessarily dynamic and unstable point of equilibrium.

The call for a typology of changes incorporating this duale vision of the organization, offers us a reading grid useful to the understanding of the cases studied in the ANGE project. The table below is constructed by crossing two factors:

- on the one hand, the way change emerges, imposed from the outside or by management versus co-constructed with stakeholders in an emerging or authority-driven manner;

- on the other hand, the pace of change, evolving according to an iterative logic or "small steps" versus brutal where a before and after are identifiable following the implementation of new devices. In both cases, the magnitude of the change may be limited to a simple adaptation or have a more structuring effect of the organizational system and profoundly transform some major aspects of its operation.



Adapted from D. Autissier et al. (2013, 2018)

Applying this typology to the four institutions studied, we find that all were, to varying degrees, in a dominant logic of continuous change whereai teachers, interested in teaching methods using digital tools, attemptedto experiment with them and disseminate them when they wereperforming well in the classroom. Their operation is very informal and based on voluntary commitment. In this context, management does not play a direct managerial role (planning, allocation of resources, animation, control) but, a minimum lets do, and at best facilitates and encourages initiatives. This situation is conducive to the development and participation of more institutionalized projects such as ANGE because a group of driving actors familiar with the project logic can participate upstream in its preparation and form the core of the project team that will be responsible for it.

For example,participation in projects such as ANGE allows for the addition of a register of action on change actions without replacing emerging initiatives. Continuous and diffuse,change becomes proposed or organized,, depending on the more or less standardized nature of the expected results or the methods to be mobilized. In both cases, the deadlines become standard according to theprogrammed life of the project: its general aims are common to the participants but their local variations remain their responsibilities. These can be,, entirely or partially,, co-constructed by the participants of each institution, depending on the context and management of the head of the school. It is on how he will manage the project and the changes he seeks to produce that the head of the school has the most room for manoeuvre, taking into account the variables,, more or less restrictive,, of his environment. The GSR and ZAWM institutions have essentially remained on this register because of their respective management (between delegative and "leave to go" in the educational field but active in the external environment) and an evolving but relatively stable environment.

Indeed, the evolution of certain environmental variables or a decision of the head of the school can lead the change to be (or become) directed. The stalling of participation, the injunction of a guardianship to present results quickly, the implementation of a reform or structural changes interacting with the project can lead to a firm (re)takement of the project by management. The

challenge here becomes the mastery and realization, at a given time, of the project of change, at least in its visible dimensions (deployment of a tool, implementation of a new method of work ...) if not effective. When the injunction is linked to the proposed change but not the only dimension, it may tend to have to focus on that dimension by temporarily or permanently abandoning the others. Thus, the need at a given date to carry out evaluations in digital format at NL or the implementation of the reform of the high school and the baccalaureate, in a post-merger context, at PCH have logically led to focus the actors on these priorities, probably at the expenseofother actions of change also induced by the ANGE project.

The COVID19 crisis was a major event that led all participants to focus on a management crisis. The injunctive nature of this crisis has sometimes been an opportunity to reap some of the gains of the ANGE experiment by facilitating the urgent adaptation of distance learning. However, it has also had a highly destabilizing effect on the functioning of the institutions and the dynamics of the projects in progress.

b. Decisions and deployment of new teaching tools and methods: volunteerism to encourage volunteerism?

The way in which the change project is initiated, the degree of impulse of management and a more or less restrictive context will thus contribute to influence its management. There is no determinism or universal recommendation as to a good way to drive and/or accompany this type of change but contingency factors that will be more or less perceived by the actors and will therefore influence their perceptions and actions, especially those of the head of school.

Thus, the table below shows the consequences of managing change depending on the type of change the organization is facing. The two columnsform the archetypal continuum extremums of a continuum form between a change that would be highly planned and the other essentially emerge. The first is conceived as a sequential process of rational deployment of a strategy developed by (or imposed on) the management of the institution. It is based on a direct and centralized management for which the faithful implementation of the change plan is the main objective. The second is conceived as the result of anonstruction of a common meaning, acceptable, even shared, of change among its stakeholders. It is based on collaborative management where management creates the socio-organizational conditions for stakeholders to interact, experiment and shape a change that is the product of this process. Above all, management plays a very general role in guiding the direction of change, methodological support, facilitator and resource provider. It is at the service of the actors of change, while retaining a legitimate right of decision-making arbitration and, in the event of a stalemate of the process or events requiring acceleration, partial takeover (proposal or organisation), or even strong (direction) of change.

Directed Change/Organized Change/Proposed Change/Continuous Change	
A clear and framed vision of the desirable future and how to achieve it	Open and fuzzy vision of the desirable future and how to achieve it
Precise definition of the elements of the organization to be changed to achieve this vision	Defining a collaborative approach to co-building the changes to be made
Key players make decisions that they impose top-down	Willingness to bring out new behaviours through diagnosis and shared decisions
Relatively small manoeuvring margins left to players who need to implement and adapt	Great freedom of action left to actors to promote the creativity of each and autonomous behavior, experiments

Adapted from I. Vandangeon-Derumez (1998) and Autissier and all. (2018)

The management of the ANGE project in the four institutions studied is, to varying degrees, between these two terminals, but none corresponds to an extremum.

Thus, due to a constrained environment requiring the creation of a new project and a new establishment culture following a merger, in the context of major national reform of the secondary school and a rather directive management culture (while leaving spaces for participation and experimentation), PCH is in a process of change management that oscillates between the organized (in the service of the new school project and mobilizing the new equipment) and the proposed (choice of pedagogical experiments rather left to the actors) with a directed dimension due to a very proactive management and a very structuring institutional framework,, and requiring compliance with binding requirements and deadlines.

The NL case illustrates a management that is far removed from pedagogical issues that leaves a great deal of autonomy for volunteer teachers to carry out their experiments. The executive is primarily focused on the management of his institution and the relationships with his external stakeholders. Nevertheless, the very strong constraint of curriculum reform and its component aimed at digitizing national assessments of pupils tends to focus the ANGE project on this dimension at the expense of other educational contributions. The opportunity offered by the institution's participation in the ANGE project is then diminished by the need to respond to this external injunction that transforms a proposed type project into a project led not by the interventionist will of the head of the school but by external constraints.

In the case of ZAWM, the ANGE project is clearly an opportunity to move from a change that is predominantly continuous (but sparse and very focused on a few volunteers) to a proposed type change where volunteers will become the facilitators of an establishment project with fairly clear objectives (adapting to the changing needs of the companies hosting apprentices and the behaviour of its latest in progress) with a certain abundance in the methods and tools experienced. These cover professional subjects, general but also remote interactions with apprentices who are physically little present in the training center. The material difficulties encountered are numerous and it is difficult to mobilize teachers, the vast majority of whom take vacations in the school, but the changes implemented seem to make sense to the stakeholders who perceive the interest and the first results. While being removed from pedagogical issues, the head of the school plays an important role here in creating the material and institutional

conditions that promote the initiatives of the project's driving teachers but also to link these actions with the expectations of its external stakeholders. The ANGE project gives them the opportunity to interact with foreign colleagues and, even if this is pointed out as insufficiently developed, to identify practices and tools that they could adapt to their context. It is also an opportunity to better formalize the follow-up of educational change projects initiated even if most of the work remains fairly informal because teachers are autonomous in their pedagogy. The major obstacle to the development of these initiatives and their generalization is clearly identified: it is the lack of time and availability of the vast majority of teachers.

Finally, in the case of GSR, it is possible to note a real synergy between strategic management, operational management and change management. From a strategic point of view, one of the characteristics of the institution is that it has managed to position itself as particularly favourable to its external stakeholders,, through its long-standing and regular participationin national and European educational innovation projects. The development and continued participation in suchprojects, combined with a delegated operational management based on collaboration between teachers who form working groups to carry out collective productions and help each other,allows us to be in a process of continuous butoriented and channelled change. Thus, while building on teachers' initiatives, projects such as ANGE have helped to develop collaborative working methods that shape the school's daily life and feed the school's project portfolio into ideas and volunteers. Depending on their characteristics, projects are organized or proposed in an internal context of continuous change. Like all institutions, GSR must respond on an ad hoc basis to external injunctions that would imply a directing mode, but the ability of actors to mobilize and their habituation to the project mode and the autonomous conduct of change seems to make the need for managerial directionality minimal. Above all, it is a question of "technically" ensuring compliance with constraints without the question of the involvement of the actors appearing to be a major obstacle.

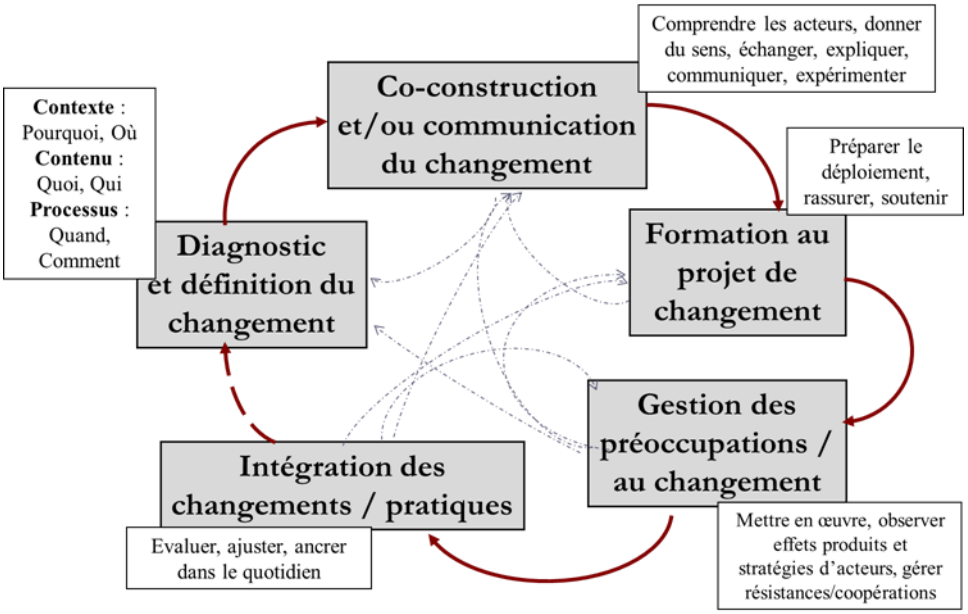
Thus, the volunteerism of the head of the school always seems important to create a context conducive to collaborative work, itself a factor in the emergence of a culture of mutual aid and educational innovation among teachers. However, when it comes to fostering and facilitating the emergence and development of projects aimed at changing teaching practices, the autonomy of teachers should be preserved. The head of the school then places himself further back and essentially plays a role of facilitator who is at the service of the teams but also the guarantor of the coherence of the actions carried out in the context of the settlement project. This positioning, sometimes on the front line, sometimes more backwards, requires a capacity for discernment as to the requirements of the context but also as to the expectations of the stakeholders in the face of the change in progress.

c. Identify and address the concerns raised by the deployment of the digital project among key stakeholders: necessary vigilance throughout the process

Unsurprisingly, the main stakeholder in the ANGE project mentioned in the four cases studied is the faculty. Of course, students, their families, other staff and external actors (tutels, local

authorities, neighbouring institutions, etc.) are important stakeholders who have a role to play at different stages of the process, but teachers are the omnipresent actors.

The diagram below attempts to represent the successive and articulated steps of a process of deliberate change that would be the subject of impetus and managerial accompaniment. Its linear scheduling, ranging from decision-making to its sustainable integration into practices, is nevertheless nuanced by a set of non-linear interactions between its main phases, distinguished for the need for analysis but, in fact, highly intertwined. Thus, the reality of a process of change consists of contingencies, unforeseen events, interactions, negotiations and adaptations that can lead the project to evolve significantly from what was originally envisaged by its initiators. The latter are not necessarily hierarchical leaders but can be actors on the ground taking initiatives and acting very informally.



Adapted from D. Autisser and Moutot (2016)

The ANGE project was an opportunity for all institutions to participate in the project steering committee, to successive events marking its various stages and to decline this driving logic at the local level. Thus, they have all set up their steering committee, usually composed of the head of school, assistants and possibly administrative actors, volunteer teachers being involved in similar projects (formal or informal) including the trainer dedicated to digital,where it exists.. This steering committee is metby a teacher identified as the project's bearer and meets on varying periodicities: from once a month to two-three times a year. Between these meetings, interactions between project participants vary in frequency and are essentially informal. The members of the steering committee are sometimes tasked with communicating to their other colleagues the progress of the project and the decisions that have been made. Indeed, if such a committee is a place of exchange and coordination, it is also a place where the head of the school is reported to the head of the project and where the head of the project can be called upon to validate proposals and make decisions.

The existence of a steering committee is therefore by no means exclusive and is systematically supplemented by working groups, more or less formalized, where the essentials of the interactions that allow the project to move forward take place. Theseprovisions are the preferred places for the actors involved in the project to construct a shared diagnosis on what is wrong (why) and which needs to be changed (what and where), at what pace (when), according to which methods (how) and on the main stakeholders involved in the change (who). This preparatory work, when it is collegial, can go beyond the steering committee and be supported by working groups and informal exchanges with stakeholder representatives. The more widely shared it is, the more the project of change can consider, as far as possible, the plurality of the actors' views. It is in itself the beginning of implementation because it offers the opportunity to actively listen to the actors, to confront their points of view and to try to co-build a project that faces common sense, or even, at best, that elicits a certain amount of support. These structured exchanges also prepare for the future deployment of change by appreciating the resources, time and support efforts that will be required. The lackof understanding, fear, opposition or adherence that can be detected during exchanges, or even during experiments, will help to better understand the concerns raised by the project among its stakeholders.

In this regard, Bareil's work offers an interesting typology to identify the concerns of the actors and the actions that could respond to them, as summarized in the table below:

PHASES DE PRÉOCCUPATIONS	EXPRESSIONS COURANTES ET THÉMATIQUES	PRIORITÉS DE GESTION	ACTIONS ADAPTATIVES POUR L'EMPLOYÉ
1. Aucune préoccupation	« Je doute que ce changement me concerne » · Continuité des projets habituels et des habitudes de travail · Peu d'importance accordée au changement	Communiquer de façon précise et donner de l'importance au changement	· Poser des questions · Rechercher des faits et des données vérifiables · Confronter sa position à celle des autres · Reconnaître ses réactions
2. Préoccupations centrées sur le destinataire	« Que va-t-il m'arriver ? » Inquiétudes égocentriques quant aux impacts sur soi et sur son travail : perte d'emploi, insécurité, pertes du patron et de collègues, perte de pouvoir, d'autonomie, de compétences, incidences sur les outils de travail et sur l'organisation du travail, etc.	Écouter et soutenir	· Exprimer ses inquiétudes aux bonnes personnes · Chercher des réponses · Accepter que l'information ne soit pas disponible · Apprendre à gérer sa petite voix intérieure

PHASES DE PRÉOCCUPATIONS	EXPRESSIONS COURANTES ET THÉMATIQUES	PRIORITÉS DE GESTION	ACTIONS ADAPTATIVES POUR L'EMPLOYÉ
3. Préoccupations centrées sur l'organisation	« Est-ce que le changement est là pour durer ? » · Inquiétudes quant aux conséquences organisationnelles du changement à moyen et à long terme · Questionnements sur la légitimité du changement, sur la capacité organisationnelle à mener le changement à terme et sur l'engagement de la direction	Démontrer le sérieux et les raisons du changement et illustrer les moyens engagés par l'organisation pour la réussite du changement	· Comprendre les raisons qui motivent le changement · Se positionner par rapport au changement : rester passif ou s'investir ?
4. Préoccupations centrées sur le changement	« Qu'est-ce au juste que ce changement ? » « Comment fait-on ? » Inquiétudes quant au scénario de changement, à la qualité de la mise en œuvre du changement, aux ressources allouées	Communiquer le plan d'action, les ressources et faire participer	· Répondre aux questions : qui, quand, comment, avec qui · Échanger avec d'autres personnes ayant vécu le même type de changement
5. Préoccupations centrées sur l'expérimentation	« Est-ce que je vais être capable de… ? » Inquiétudes quant à sa capacité à faire face au changement, au soutien disponible et à la compréhension de son supérieur	Faciliter le transfert des nouveaux acquis : formation, accompagnement, temps d'adaptation	· Réduire ses zones d'inconfort avec la technique des petits pas · Clarifier les attentes du gestionnaire · Exprimer ses besoins de soutien sur les plans technique et professionnel
6. Préoccupations centrées sur la collaboration avec autrui	« Qui pourrait-on réunir pour qu'on collabore à trouver des solutions et auprès de qui transférer notre récent savoir ? » Inquiétudes quant aux occasions d'échanges et de collaborations avec d'autres équipes, services, unités, etc.	Faciliter les échanges entre destinataires et devenir une organisation apprenante en changement	· S'impliquer dans un comité · Partager son savoir et son savoir-faire · Mettre à profit ses expériences de changement
7. Préoccupations centrées sur l'amélioration continue du changement	« Comment pourrait-on faire mieux ce qu'on fait bien avec le changement ? » Inquiétudes quant aux améliorations à apporter pour que le changement fonctionne encore mieux	Laisser émerger des pistes d'amélioration du changement	· Oser agir autrement, innover · Envisager des façons originales de faire les choses

C. Bareil (2008)

As proposed by C. Bareil, each of these phases of concern must be the focus of attention on the part of the project team and may be the subject of action to address them. Even if we must be aware that there is no automatism in this progression and that actors can anchor themselves in passive or hostile behavior towards the project if they perceive it negatively in relation to what matters to them. Nevertheless, identifying them helps to limit misunderstandings and misunderstandings but also to anticipate the foreseeable difficulties of implementation. Of psychological origin, this reading grid can be usefully supplemented by the strategic reading grid of the sociology of organizations (Crozier and Friedberg, 1977; Bernoux, 2011; Dupuy, 2020), based on the analysis of the organizational games of actors seeking to achieve their goals, in a context they perceive in terms of resources and constraints, factors of contingency to the adoption of behavioral strategies in the face of change.

The interviews we conducted do not allow us to apply these analyse grids to the cases studied because it would imply that we could design a data collection device, in the form of in-depth interviews and observations, which we were not able to carry out. We therefore adopt here a prescriptive position, as to the relevance of the use of such analytical grids to illuminate the action of the actors of change, rather than descriptive and analytical,, for lack of material to mobilize them. Nevertheless, they allow us to measure the importance of considering the sociological and psychological factors that influence the behaviour of actors in the face of changes whose magnitude may seem limited in comparison to major institutional reforms but which impact the core of their profession, their pedagogy and their interactions with their students.

d. Moving from experimenting with new practices to effective anchoring them: a major post-project challenge that is difficult to master

The final phase of a change project, as presented in the previous scheme, does not consist of the end of the project itself, when the project is formally completed, following the deployment of its deliverables. Great is the (legitimate) temptation to celebrate the end of the project, if it has succeeded, and to move on,, considering the change that one wanted to implement acquired. However, the effective implementation of a new structure, a new system or new working methods does not imply that it will be generalized, sustainable and effective.

The change can be ephemeral, on the surface, have negative induced effects and/or give disappointing results, in view of what the initial results suggested. This post-project phase of change, which K. Lewin describes as a "refreeze" or "recristallization" that follows the "transition" phase (or "displacement")," is all the more critical because the attention of change actors has generally shifted to other projects or subjects. The steering committee is less mobilized or even dissolved, and at this stage it is essentially the more informal dynamics that have developed throughout the project that can continue and continue the work of integrating and accompanying change in practices. However, it remains the responsibility of project initiators to maintain an appropriate level of support and to focus on assessing the effects it produces to help consolidate or adjust them.

With regard to the ANGE project that is coming to an end, only a return to the land where its variations have been deployed will allow us, in hindsight, to assess the nature and sustainability of its effects. In view of the interviews, it seems certain that it has helped to consolidate (GSR, ZAWM) or to develop (PCH, GL) the operation in project mode within the participating institutions, through in particular structuring methodological inputs and the dynamics created on this occasion. But daily life, reforms or crises naturally tend to focus actors on issues that can distract them from this dynamic, unless it proves synergistic with these same issues and with the strategic and operational management of the head of the school. Thus, it is essentially an alignment between the contributions of the projects initiated, the methods of collaborative work they have developed, the concerns of the stakeholders concerned, the way the head of the school manager manages and the challenges facing them that allows a change project to be truly appropriate by its actors.

From an opportunity to a few and a source of concern for many, it can become a resource for the greatest number when the elements that constituted the content of the change and the management method it helped to develop provide solutions to the problems faced by its players in the exercise of their profession. It is on this condition that we can hope to see an anchor of change in daily practices and a systemic transformation of the functioning of theinstitution, according to a collaborative or even learning logic.

Conclusion

At the origin of this study, two main families of questions were asked to us and it is in the hope of answering them that we mobilized the framework of contextual analysis of change.

The first focused on the interaction between the design and deployment of a digital educational project and the management of the institution. How does such a project affect and be affected by existing management? We have shown that this link is clearly visible in the case of the ANGE project because of its content, but above all because of the process of operating in project mode and accompanying the change it brought about. Nevertheless, the nature of the interaction is in no way deterministic and will depend on many parameters. The contextualist approach offers us three main ones that we mobilized during this study.

The content of the projects: here is the main commonality between the cases studied because, if they are not identical, they all fall under the same logic. The aim is to develop the use of digital tools in order to significantly evolve certain aspects of teachers' pedagogy towards more interactivity with pupils. The latter need to be more involved in their learning and this can include the use of digital tools before (preparation of reverse classes), during (toolsfor exchanges and interactions) or after (self-assessments, deepenings, distance tutoring, final evaluations) the class.

Context is an important differentiating factor and we have tried to show the impact on the project. External pressures from the school's environment can provide a strong lever for the project: incentives for guardianship, digitization of national assessments, high expectations of key partners, changes in classroom behaviour of students. But other characteristics of the same environment can significantly hinder the progress of the project, or even call into question the sustainability of what has been implemented: regular reforms of programs and structures, regulation of the work of teachers not taking into account their investment outside the pedagogical face-to-face, instability of technologies and applications used, brutal crises... Faced with these factors, the heads of schools have no lever of action except that by identifying them and analyzing theurs positive or negativeeffects, they can try to adapt the management of their institution and the current change project.

That is precisely what the process is all about. It consists on the onehand, of the strategic and operational management of the establishment and the management of the change project itself. The latter involves the establishment of modes of interaction,, *a minimum* participatorys,even

collaborative between theactors of the project team but also with all the actors involved in the project. When this is also the usual way of managing the establishment, there is no tension between the operation of the establishment and that of the project since both are on the same register.

However, when this is not the case, tensions are inevitable. These can be constructive and sources of learning and lead a rather hierarchical and direct management to gradually become more participatory, or even tend towards more delegation ofresponsibility to actors who are considered ready to assume more autonomy (Chomienne and Pupion, 2009). They can also be sources of contradictions between the uns formal and horizontal interactions involved in the operation of the change project and the more formal and vertical mode of operation on a daily basis. At the risk that the management of the project will shift to the day-to-day management of the establishment and is partly sterilized. It does not seem to us that this happened in the context of the ANGE project, but it is a very real risk. On the other hand, we were able to note, to varying degrees, that the dynamics created by the ANGE project naturally melted into the existing management when it was on the same register or, in the majority of cases, offered the opportunity to the head of the school to evolve his managerial posture, without necessarily being aware of it. For example, using the project to improve the strategic positioning of its institution in its environment and to make this issue a driving force behind the dissemination of new teaching practices is an interesting contribution to the case of ZAWM.

This naturally leads us to the second family of questions that guided our study: what are the effects of school participation in the ANGE project on their governance, i.e. on their relations with their external and internal stakeholders?

We have shown that, for external stakeholders, participation in such a project is, by itself, an important lever to legitimise the demand for specific support, particularly in terms of resources. This additional contribution of resources is not automatic and is only achieved by demonstrating the potential added value for the establishment of participation in this project and the conditions for success that require the allocation of additional resources. Indeed, the project itself funds the operation and enhancement of the actions carried out between the participants of *the EE ANGE classlabs,* but each institution must mobilize its resources to design and deploy its change project locally. Once initiated, it is the effects produced that will also be able to position the institution favourably vis-à-vis the stakeholders who get new answers to their expectations. The more satisfied these stakeholders are, the more the head of the school and his teams can hope to obtain support and benefit from favourable arbitrations: the external environment is then a variable that is not fully experienced but which can be contributed, even modestly, to influence favorably.

As far as internal stakeholders are concerned, participation in a project such as ANGE is a great opportunity for its participants to be open, especially when participation in this type of project is not usual.le Meetings, exchanges, debates, visits, demonstrations and the development of common methodologies are key moments to learn each other's experiences and, in turn, to import these dynamics and learnings within one's institution. Nevertheless, the cases studied show that this is not done without a minimum of organisational efforts: steering committees, project leaders, thematic

working groups, referents, relay teachers of their discipline or department... are all devices and roles to be formalized to relay the dynamics and teachings of the ANGE project to the greatest number of people in the institution.

Thus, this cannot be decreed and essentially passed through the hierarchical process. This necessarily means delegating, therefore sharing, no part of the power of action (and certain decisions) with the main players of the project. They must have the legitimacy and the means to play their role of animation with their peers. This implies that teachers are receptive to these actions and agree to devote time and energy to them. However, this is not obvious, it is even pointed out by our interlocutors as the main difficulty in moving from a phase of experimentation provided by the actors of the project to a phase of adaptation and dissemination on a larger scale. As formal incentives, particularly financial incentives, are very limited or non-existent, they do not constitute significant leverage.

It is then the ability of the head of the school and the actors of the project to create a favorable context (in terms of envy and interest) to the commitment of the greatest number in the evolution of their pedagogical practices that appears decisive. But this implies that they see its meaning, interest and strong support throughout the process,, which implies the additional mobilization of material and human resources in support of the project. Or that the way the head of school is managed embodies, through his daily practices, what is required of his teams and that this constant exemplarity helps convince them of the interest and the merits of developing new modes of interaction between peers and with students, with or without the support of digital tools. This seems both heroic and a necessary condition for achieving a systemic transformation of the governance and management of an institution, with the deployment of digital devices being a trigger and possibly facilitator.

Thus, the question of the head of the school's appropriation of the pedagogical issues of the digital project, beyond the question of the integration of new tools, offers him the opportunity to play a real role of facilitator vis-à-vis the stakeholders (Attarça and Chomienne, 2012, 2013; Desmarais and Abord de Chatillon, 2010). Especially with regard to teachers, he can accompany all the more because he has knowledge and legitimacy on pedagogical issues (pedagogical differentiation, collaborative work among students, increased autonomy of students, identification, evaluation and enhancement of cross-cutting skills...) without going into the didactic details. While the head of the school's ability to actively contribute to the evolution of pedagogical practices is facilitated by previous teaching experience and a common culture, it relies mainly on the development of relationships of trust and mutual respect in his daily management.

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