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Chapter 1

Institutional Metacognition as an Improvement Tool for Educational Management

Carlos J. Ossa-Cornejo,
Ignacio Figueroa-Céspedes and
Felipe Rodriguez-Rojas

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Abstract

A theoretical article is presented in order to describe and analyze an innovative methodology for educational management called institutional metacognition (IM), and it's defined as a reflective and participatory process of an educative community to face conflicts, applying techniques that generate a conscious, dialogical and collaboratory learning in educational organizations. This perspective is relevant to school management field, because it implies the need to build a new vision of the school as an organization that not only teaches but also learns and therefore delivers new tools to current social needs of communication and participation that are stressed nowadays in educational organizations. This process can be used as a management tool for organizational change, to promote an effective learning, and to improve coexistence in schools; it would be used to manage organizational change, and it allows monitoring and accomplishing activities and conflicts that may occur. The characteristics of IM help to improve managing the organizational process when it is visualized as a part of improvement cycle. It presents benefits to collaborative learning, diversity, conflicts mediation and participatory diagnostics. On the other hand, there are challenges that hinder their application to improve relationships, both internally, as a new and unknown tool, and externally related to features of educational institutions.

Keywords: metacognition, organizational learning, school management, improvement, reflection

1. Introduction

Currently, the educational institutions are facing multiple challenges with respect to the improvement of learning, decrease of violence and conflict situations, effective use of resources,

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implementation of social policies, etc. This, thus, leads to a complex conception of what education implies, which implies not only generating effective and significant learning but also effectively integrating the influence of factors related with the social interaction and of sociopolitical factors related with the classroom and the school [1].

Therefore, the importance of the individual learning, at a social and organizational level, should be considered for the development of the educational institution, for the strengthening of the organizational culture and the learning goals in students [2, 3], and for the implementation of educational inclusion processes and complete formative development of people [4]. While these different levels of learning that occur in the school (individual level and organizational level) are usually worked separately, obeying different logics, it is possible to generate them in an articulated way, through collaborative and reflective processes.

One of these processes is called institutional metacognition (IM) originally discussed by [5], as a reflection and dialog process to deal with situations of conflict; however, it can be posed as an innovative methodology to elicit and evaluate processes of improvement and change, at both the individual level and institutional level [6].

This methodology has consequences on the learning and organizational culture and is relevant to the field of educational management, since it implies the need to build a new vision of the school as an organization that not only teaches but also learns and, thus, contributes a participatory methodology to the actual social needs that currently stand out in educational organizations [7, 8].

In this way, the student learning in the community, the operation of the school organization, the processes of school coexistence and the procedures for education inclusion can be understood as processes of change that require systems of participatory and reflective information management that can lead to a more effective and democratic development of the educational institution. It is therefore a relevant factor for the educational management and can be established as a systemic process of diagnosis and intervention to generate organizational change. This thus allows IM to be understood as a mechanism for continuous improvement of school management [8].

In this chapter, an analysis of the different levels of learning and how they benefit from the metacognition process will be presented; likewise how the institutional metacognition is a methodology for the learning of the organization itself, as well as a mechanism of organizational change, considering it as an adaptive tool of the educational institution. Finally, it will be shown how the IM supports the educational management, so that it can be used by school managers within the perspective of the organizational improvement cycle.

2. Institutional metacognition as a strategy for the promotion of individual and organizational learning

We can consider learning as one of the relevant processes in the current educational policies; however, it is still a phenomenon little understood and therefore perhaps underused, due to

which it presents itself as a complex and dynamic concept but insists on being treated as a rigid and simplistic concept [1, 9]. Since the 1970s, learning has been considered a process of thinking which allows us to use reasoning in an effective manner; for this the use of cognitive strategies to learn effectively and meaningfully is not enough, but reflective strategies that evaluate the same process of using those strategies to learn, that is, metacognition, also should be used.

The metacognition is defined as a set of knowledge generated by the individual, both the knowledge they achieve and the way in which they carry out an activity [10]; it is relevant to decision-making and the evaluation of the results of this, which turns the metacognitive process into a tool so that people learn better, expressing themselves in individual, group, and organizational situations. In this sense, the IM is an evaluative methodology, of a reflective and participatory character, in an educational community, to face the difficulties present in the institution and to evaluate their effects, applying techniques that generate a conscious, dialogic, and collaborative learning in the educational organizations [6, 8].

On the one hand, it can be used as a strategy to evaluate the academic development of the students, as well as the teaching methodologies of the teachers, which allows generating improvement plans to remedy difficulties that arise in these areas. On the other hand, it can be used as a diagnostic mechanism for the school coexistence, determining the existence of poorly resolved situations of conflict, as well as teaching the culture of peace, necessary for the good life of the members of the educational community [5, 6].

Furthermore, the IM is a tool that can orient the organizational development, based on the promotion and evaluation of collaborative processes in the educational management This permits, on the one hand, fostering collaborative work between teachers and professionals of the institution and, on the other, generating a process of evaluation that is reflective and oriented toward action that permits improvement of the difficulties found.

2.1. Metacognition and learning in community

Knowledge and the metacognitive strategies help in the learning process, allowing it to be achieved effectively; this implies not only a dimension of knowledge but also a dimension of regulation over the decisions made by the person [10, 11], which becomes especially relevant to the learning process. The ability to self-regulate is important for the achievement of better learning [12], providing the student a tool for reflection on their specific knowledge. All this will allow them to guide their own formation with better results [13].

Working the metacognition processes with the students, helping them to become conscious of their knowledge and of their conceptual structures, improves both the involvement with the learning and the methodological and conceptual results. In this sense, the student's metacognitive abilities influence their learning, also serving as indicators of academic performance and problem-solving processes [14, 15].

The development of metacognition achieves, in this sense, profound and meaningful learning, since the ability to know one's own knowledge and to determine how it is achieved is related to the ability to recognize and memorize relevant information [16] and to understand

and apply it, for this reason it is argued that there would be a strong relationship between metacognition, profound learning, and self-regulation [17, 18].

Applying IM in processes of evaluation of learning by the teachers with the students can help generate knowledge of the positive and negative aspects of learning assessments and lead to a search for actions that can enhance them.

On the other hand, the constructivist and sociocultural vision of teaching and learning conceptualize the latter as a process of construction of meanings, as well as of attribution of meaning to contents and tasks; although this is done individually in educational processes, under certain conditions, collaborative work between students allows for the implementation of inter-psychological processes of knowledge construction that favors the meaning of learning and the attribution of meaning to it, which would form a type of learning called collaborative, as opposed to individual [19].

Collaborative work is one of the fundamental pillars of education and community life, since social participation and democracy are fundamental values of the modern societies; furthermore, it is crucial for the achievement of quality learning that permits the establishment, through dialog, of a construction of profound and meaningful learning, finding higher abilities of learning and abilities of metacognition than when developed in individual work [20–24]. The dialog and discussion processes between people allow us to consider thinking as a social construction, which must include participation and dynamic and interactive collaboration [22]. In this way, the importance of collaborative interaction and learning for the development of learning processes is evident, not only in terms of cognitive achievement but also metacognitive achievement.

The proposal of collaborative learning (sometimes called cooperative), based on the proposals of Johnson and Johnson, as well as Kagan and Slavin [24, 25], points out the importance of generating a process of integrating the work of different students toward a common learning goal. Although it is expressed from [20] that there are differences of meaning and organization between what is denominated as cooperative learning and collaborative learning, other authors suggest that there are different nuances of a similar process, oriented to valuing the conscious and motivating union of the students for a better learning [26]. As it is not the subject of this chapter to delve into these distinctions, it is valued that cooperative and collaborative work generates learning situations that foster the development of metacognition and critical thinking, which emphasizes the importance of interaction and communication for the development of thinking skills and regulation of tasks.

Learning is especially effective when it is done by sharing with others, like say Marqués [27]; the group builds their learning creating collaborative cultures in which contents and meanings are shared. Encouraging cultures of collaboration and collective agency involves continually learning at multiple levels, which gives it an undeniable weight in professional teacher development [27].

In this way, the institutional metacognition can be a relevant factor as part of the evaluation that requires self-regulation of the team, principally based on the positive interdependence and co-responsibility characteristics that are indicated as those that must be present in this culture of collaboration for learning [25].

In this area, the IM can be used as a tool both for the students, who can support them in their group course to assess the relevance and functionality of collaboration in their collaborative/cooperative learning processes, and for teachers, who can use this tool to achieve professional learning based on the development of collaborative work teams in which they can improve their teaching practices [28]. In relation to the latter, IM is also useful in overcoming the difficulties that are present among teachers in assessing collaborative work and putting it into practice, since some teachers discredit the need to work collaboratively for biased reasons or for lack of knowledge [29].

2.2. Metacognition and organizational learning

The traditional perspective of educational management sets that the achievement of the institution's objectives is reached through a series of standardized procedures that oblige one to respond in a univocal and homogenous manner and in the majority of cases "blind" to changing situations of the environment [30]. Contrary to this, decades ago, a perspective, called strategic, was implemented in the administrative and educational management processes that has considered that the response of the institution should be based on safe but flexible, reasoned and reflective procedures that allow for the minimization of negative consequences but give a more pertinent response to the dynamic environments of the institutions, and in this the process of metacognition is fundamental [31].

This ability to achieve a guided and planned change that allows for the adaptation of the organization's members is one of the greatest objectives of organizational learning, bringing as benefits the ability to face the processes of change in an efficient manner and to identify the effective aspects to maintain them [6]. It can be understood also as a set of accumulated knowledge by people that the organization is composed of, synergistically organized to foster innovation in the organization [32]. Thus, an institution learns in an effective manner by allowing support to achieve a significant and transcendent change in its patterns and actions in response to the dynamic needs of its educational community [33].

As it is noted [34], the metacognition could serve as a tool to promote the organizational improvement through training based on metacognitive reflection and to allow bringing the members of the organization to a state of high consciousness of their actions and needs. The reflective collaborative work would demonstrate the various benefits, on the one hand, to allow organizing responsibilities in a clear and balanced form, increasing the achievement of the metacognitive processes of the individuals, and, on the other hand, to encourage development of support strategies between the group and community members, through the identification of limitations in the development tasks and coordination of efforts, increasing the achievement of goals and of motivation [35].

On the other hand, it is discussed [36] that the concept of organization metacognition refers to the knowledge that the members of the institution should have about the networks of the existing knowledge in the same, noting that, many times, the institutions are not able to realize what they do not know with respect to their own institutional process. In this way, the metacognition is a process related to the management of knowledge, in which the organization generates learning starting from the pertinent and effective information that is used. The

management of knowledge uses the information produced by the members of the organization, converting the said information into an active capital that permits decision-making and the resolution of problems [4].

The IM is a relevant factor for the organizational learning, being that it promotes conscious and shared processes of knowledge between the members of the educational community and necessarily relates to the management of the knowledge, given that it allows determining information that can orient the processes of organizational change and clarifying unknown aspects of the functioning of the organization to strengthen its effectiveness.

3. Institutional metacognition as a strategy for educational change

Currently, the educational change is understood as a complex, long-term process that must then be analyzed in detail, favoring its understanding so as to be able to anticipate in an adequate way the contingencies associated with this process (planning, management, project evaluation); this is always from a collaborative perspective incorporating all the members of the institution. The processes of change in education have an institutional dimension that forces them to develop with a certain structure and order, so that they have a systemic and institutionalized character, based on a process of understanding and decision-making that involves the whole educational community [37].

The change becomes substantive only if we manage to activate reflective and critical processes based on the deliberate analysis of emerging issues of the institution, paying particular attention to the way in which information is managed. In this sense, processes such as educational self-evaluation understood as the process of systematic and analytical collection that implies, on the one hand, the exchange of data related to education process [38] and, on the other, a necessary step for the development of the educational institution.

Changes are processes of social construction that from a situational strategic logic are associated to cognitive processes of problematization, prioritization and design of improvement actions, which must be precisely monitored by the different teams. These processes are linked to what some authors have defined as organizational learning (Senge [39]). Understanding the school as a learning organization implies an institution that allows itself to manage a significant and transcendent change in its patterns and actions in the face of the dynamic and systemic needs of its educational community [34, 40]).

As Bollen points out [41]), "the school improvement only is possible if the school, as an organization is able to learn, not only in the case of individuals, such as teachers or administrators, but also in the way that the school can overcome ineffective behavior through close cooperation" (p.29). This shared metacognitive ability implies a process of monitoring of the own institutional cognition and includes activities of "planning, monitoring or knowledge of the understanding and performance of tasks, and evaluation of the effectiveness of the process and monitoring strategies" [42]. If we see the change processes as generators of knowledge, we must say that the processes of reflective monitoring play a key role in the development

and improvement of metacognitive knowledge in the educational institution. At the same time, the knowledge seems to facilitate the ability to regulate cognition. The two are empirically related and can be integrated in the form of metacognitive theories, as representational frameworks of knowledge, in this case institutional.

The construction of an educational project or institutional development project implies necessarily the active fostering of a series of attributes in the educational community that implies the self-exploration and critical analysis of the school. The institutional metacognition understood as a shared cognitive act is extremely important in the understanding of the progressive complexity that the institutional management has acquired in the educational establishments. This is especially relevant if we view this process of educational development from the critical perspective, in which the study of the correspondence of the actions with transcendental principle and values becomes relevant [43].

The metacognition is an attribute that involves cognitive aspects as well as interpersonal, that is, to the person and their social environment, being necessary to establish effective interactive guidelines both for the community within the educational establishment and for its link with the external environment. It is a process of systemic approach in terms of its purpose to rescue the visions of all the members of the educational community [6].

This ability of institutional self-consciousness must sustain itself, furthermore, in a participatory dialog that permits cooperative exchange of information about the critical topics of development of the institution. The cooperation between people from this perspective of the situated cognition sets that the aspects of human cognition are inherent to the work contexts in which various people participate [44].

From a situational strategic logic, it is recommendable to enhance the self-consciousness in management of educational institutions. In this sense, the formulation of plans and associated projects implies commitments of action that emerge from a particular view at what the institution does, from a proactive and transformational direction.

As [27] point out, the learning potential "is maximized in contact with others, which makes it necessary to be nourished by reflective processes that return cyclically to the practice (…) It is also essential not to restrict the knowledge of traditional processes of inquiry, but to promote knowledge that arises from the experience of subjects as the central axis of their history" (p.7). In this sense, the educational change must necessarily imply a cognitive change, in the way that we must inquire about the development of our educational institution [45]. The vigilance and analysis about this school learning potential imply an inquiry and reflection of diverse aspects; which we want to improve our particular forms of conflict processing [6] and organizational learning [8].

Also, according to [46], there are subprocesses associated with organizational learning that are worth mentioning in this section. The systematic resolution of problems, experimentation of new approaches, critical memory of past experiences and transfer of knowledge are processes that management must actively and deliberately foster, thus encouraging the reflective and conscious action of the institution.

It is important to emphasize that this idea of change based on the learning of the educational organization and its teams is not limited to a specific group of people, but affects the institution in general, through a metacognitive training that allows access to a higher level of awareness that occurs in the institution. As [47] points out, it is necessary to know the school culture in order to be able to then transform it, and this shared knowledge is a good starting point for a global change in the institution. The approach is to promote new ways to be a school; to understand it as an organization that learns and implies new forms of management and school cultures that place its managers, teachers, and students as authentic protagonists of institutional making.

Therefore, according to [48], the schools present the need to learn; therefore, it is convenient to analyze the obstacles that exist to be able to produce the said learning. This author emphasizes (op. cit) that an educational institution closed to learning, hermetic, comfortably settled in routines will inevitably repeat the mistakes of the past so that it will neither learn nor change.

To improve the processes of an institution, the development of the critical and transformative rationality over the traditional emphasis of the mere technical and practical role is vital [49]. In this way, institutional metacognition emerges as a tool that allows educational improvement, from the generation of a cooperative and trusting work climate, and through the conscious dialog, inquiry processes emerge about the most pertinent initiatives linking the different actors of the educational community. The reflection on the practice, thus, seeks to promote self-transformation through substantive changes in one's own practice, based on the questioning of everyday personal conceptions and discourse [50].

For [48], schools are institutions that tend toward routine, for which the institutional metacognition sets up, then, an inquiry method that seeks to break with the ways of doing and thinking of the school. It is positioned in a reflective transformative approach that questions those traditional practices that are reproduced in an uncritical form. The emphasis here is on the importance of knowledge management in educational establishments.

In this way, the IM encourages and maintains the change of the educational institution, serving as its base the strengthening of the democratic processes and the participatory management. For the educational managers, the support provided by the IM is relevant, due to the fact that the changes can be organized in cycles of improvement, which, being complemented by the participatory and reflective instances of this methodology, grants its greater meaning and relevance to the management.

4. Institutional metacognition: methodology for the development of a cycle of continuous improvement

One of the most appropriate forms of school management is from the view of the continuous improvement cycle, as a logical structure of management. In fact, many school programs, projects, and policies are found designed under this work structure, within which

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the educational improvement plans [51]) and institutional education projects [52]) stand out. Thus, it is proposed that the institutional metacognition must be applied in the way it is related with the management structures, adding the metacognitive component to each step of the improvement cycle: determination of the current situation, determination of the desired situation, design and implementation of the action plan, monitoring and evaluation [53].

These steps, more than a linear sequence, correspond to a spiral of improvement in the management [54]. What characterizes this process is that at the end of each step of the improvement cycle the construction of meaning and analysis must imply a joint view between all of the community actors, so that a conclusion can be drawn up at the institutional level, having as its backbone the common convergences and perspectives of each aspect, but not discarding the dissent.

The first step, called determination of current situation (see **Figure 1**), seeks to detect, analyze and problematize the main improvement needs of the institution. In essence, the central problems must be defined, identifying their causes and consequences for the community, with an emphasis on the impact on learning [54]. It is also relevant to ask if these situations are of recent origin or have crawled on for a certain amount of time, whether they affect all or part of the school community, whether they are permanent in time or arise during particular moments, and if there have been previous attempts to solve it, both in the organization itself and in others with similar characteristics [55].



Figure 1. Institutional metacognition in a continuous improvement cycle (own elaboration).

So, the institutional metacognition can be used as a methodological perspective in the process of analysis of the problems and improvement needs of the school community, with the objective of generating a process of institutional self-knowledge. For this, the traditional forms of information gathering, like the data analysis, professional reports, interviews, survey, etc., must be accompanied by moments of group reflection. Additionally, to favor the quality of the reflection, it is important that a large level of participation and collaboration of all the actors exists during the information gathering.

An example of this is the implementation of reflective encounters within and between the different actors of the school community (teachers, managers, students, parents, educational assistants, etc.), both before and after the application of more traditional forms of self-exploration, with the aim of analyzing the problems that affect the community, with emphasis on those of greater relevance for the whole community. As it has been reviewed, the consecution of this learning requires a collaborative advisory and development process, for example, in the action research perspective where the critical friend role emerges [43, 56, 57]), which operates like a collaborator that through dialog that favors educational improvement provides continual feedback about the factors that create obstacles or that promotes educational development [58].

A second step of the improvement cycle corresponds to the determination of the desired situation, which consists of reaching agreements regarding the objectives and goals to be achieved, which must be the values and behaviors expected in the members of the school community, which allows us to overcome the problem situation detected in the previous phase. In order to do this, the IM perspective can promote the use of techniques such as discussion groups, assemblies, surveys, essays and debates, always constructing a final conclusion as an organization, highlighting convergences and divergences.

Once the current and desired situations have been clarified, the organization must develop an improvement plan. Like all planning, it should contain actions, people responsible, timelines and resources for its execution [54]. In this aspect the institutional metacognition can be taken advantage of by the same techniques as in previous steps, being careful that the plan maintains its participatory character. It is essential in this regard to provide the opportunity for all actors to propose ideas, present previous experiences, investigate experiences of other organizations and consult other institutions. It is recommended to keep a record of all the divergent proposals, which were discarded in the generation of the plan for not achieving consensus, being that during the execution of the plan, elements, situations and unexpected results could arise, which require making modifications to the plan and can then incorporate elements that were not considered in the initial plan.

The fourth step is the monitoring and evaluation of the plan; it is here that the institutional metacognition, especially the community self-regulation, plays a fundamental and enriching role for the improvement of the organization. The process must be carried out in two ways, on a focused way and a general way; on the focused way, we refer to the exercise of reflections and self-regulation regarding the implementation of a specific improvement plan and its established ways to deal with emerging situations in the processes of change. It is important in this process to have an accompaniment during the observation of situations and subsequent reflection with the agents involved, both individually and in small groups.

On the second way, the more general, the same techniques for the previous steps can be used to favor the reflection of the implementation of the plan, contrasting the situation before, during and after the plan and, especially, determining consensual adjustment measures. Also, meetings can be held to exchange professional experiences regarding the process, in order to promote the exchange of knowledge and professional skills within the organization. This way, once the first work plan is completed, the improvement cycle can be reinitiated, incorporating the organizational learning achieved in the first instance and determining new aspects to be improved for a second plan.

Central to the development of institutional metacognition is the development of reflective instances during all the steps of the improvement cycle, which should be based on conclusions and decisions based on the informed participation of all actors and the establishment, seeking to establish consensus, but without losing awareness of the existence of elements of divergence, which can be kept as elements of an alternative plan, to be revised in the face of unexpected changes in the context, the implementation, or the results.

5. Conclusions

Institutional metacognition (IM) is a methodology that allows for the development of the educational institution, based on the actions of participation and reflection by the school community. It is an innovative methodology since it allows for the joint development of the reflective process of educational practices and the diagnosis of conflict situations, with the participation and dialog necessary for the meaningful and democratic evaluation of the members of the educational institution.

Although there are strategies that promote reflective processes in educational practices so that teachers can revise and modify their teaching practices and their previous knowledge, and there is a great tradition of action research that has been generated [49], these processes are usually worked independently and do not take advantage of the particularity of the collaborative and decision-oriented reflection given by the IM.

While originally the concept was thought of in the context of collaborative reflection for inquiry and improvement of school coexistence [5], and that similar concepts of organizational metacognition have been proposed, such as the process of recognition of knowledge networks in the management of organizational knowledge [36], the idea of institutional metacognition seeks to transcend these areas and is presented as a methodological perspective focused on the evaluation and improvement of situations that affect both learning and the school coexistence, thanks to the diagnosis, planning, intervention, and evaluation processes in participatory and reflective instances [6, 8].

The advantages that can be derived from the IM are, in the first place, the value that is given to the participation as a fundamental element of learning and educational improvement. Even when there is an extensive literature pointing to the advantages of collaboration in learning and in processes of educational change ([43, 44, 49, 53, 57]; Salomon [44]), this aspect is

not always valued and promoted by teachers and school administrators [29], and therefore a management structure is needed that values and promotes it explicitly.

Secondly, another advantage is the reflective analysis that entails participatory dialog; as a metacognitive process, it must respect the deep search for information and not stay with the superficial or biased information that is often used in the educational space for decision-making. The reflection allows for knowing in depth and in extension the situations that are experienced in the institution, which is why it generates a level of information as pertinent and significant, which can promote better learning.

In the third place, the IM does not only allow you to know but also to decide what to do with the information produced in a participatory manner, which necessarily guides the action. It is in this sense a process that is oriented toward educational change at the level of improvement of collaborative learning, since it can promote the reflective analysis of the processes of interaction and positive interdependence [25]. Likewise, it focuses on institutional improvement, strengthening processes of organizational change based on strategic decisions.

The fourth point regarding the benefits of this proposal is the possibility to work it into a cycle of continuous improvement, which is a set of processes that allow the implementation of the whole process of reflection/participation in four major phrases (diagnostic, planning, implementation of plans and evaluation); in this way it can be promoted as a systemic and sustained methodology over time [54].

The last point in favor, related with the previous paragraph, is that this methodology would permit promoting significant and contextualized learning, not only for the increase of knowledge but also so that this knowledge serves as a base for the improvement (improvement cycle), and this can generate at the level of learning communities, as educational organization, promoting a virtuous circle of actions that lead to such improvement, including dialog, reflection, planning, participatory change and evaluation (and new cycle).

On the other hand, within the factors that limit this proposal, we find the level of participation that is allowed or promoted in educational institutions. Participation is one of the basic assumptions of the IM, so that an institution with policies or cultures that restrict or do not promote participation would not allow the development of this methodology. Also, in relation to the above, institutions that do not allow or do not promote reflection and dialog cannot benefit from this methodology, as these processes are also basic elements of the proposal.

The third type of limitation is related to political elements or to functioning of the educational system, which many times has difficulties with management of human resources, time, or materials, and this ends up impeding the reflective and participatory work in the institution [6].

Finally, it has as a limitation, the theoretical character of the proposal; since its methodology is still being developed, it does not have empirical data that validates or rejects the approaches outlined in the proposal; and this has not been allowed for detailed analysis of the practical elements of the methodology.

Despite the previously mentioned limitations, the authors propose that the institutional metacognition proposal has sufficient epistemological and theoretical foundations to present it as a

relevant and innovative methodology for educational management, both at the level of classroom management and at the level of the global school management. Therefore, we believe that it is a feasible tool that can be used by both teachers in the development of evaluation processes and improvement of individual and collaborative learning between students, as well as can be used by administrators and professionals in charge of programs and policies in the educational establishment, to improve the school coexistence and the educational practices. Finally, it can also be used by administrators of the educational institutions, in the development of improvement plans and in the use of strategic knowledge (knowledge management), implementing it as a continuous improvement cycle.

Author details

Carlos J. Ossa-Cornejo[1]*, Ignacio Figueroa-Céspedes[2] and Felipe Rodriguez-Rojas[3]

*Address all correspondence to: cossa@ubiobio.cl

1 Education and Humanities Faculty, Bio-Bio University, Chillan, Chile

2 Center for Cognitive Development, Diego Portales University, Santiago, Chile

3 Pablo Correa Montt School, Pelarco's Township Administration Department, Chile

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