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Conditioning Factors and Opportunities for Teamwork. A Case Study from a Catalan University

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Date of publication: January 16th, 2015

Edition period: January 2015-July 2015

To cite this article: Galtés, R., Tomás, M. (2015). Conditioning factors and opportunities for teamwork. A case study from a Catalan university. *International Journal of Educational Leadership and Management*, Vol. 3(1), 24-53. doi: 10.4471/ijelm.2015.03

To link this article: <http://dx.doi.org/10.4471/ijelm.2015.03>

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Conditioning Factors and Opportunities for Teamwork. A Case Study from a Catalan University.

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Abstract

The aim of this article is to analyse the conditioning factors and opportunities that influence teamwork among teachers at a Catalan university. The creation of new academic identities based on a culture of mutual and continuing learning are essential if teacher teams are to be encouraged. A descriptive methodology was used, based on a case study approach. Conditioning factors and opportunities were examined from a structural, organisational and functional perspective. The data were obtained through analysis of the literature, semi-structured interviews and a survey with five levels of response. Application of these data collection techniques permitted both a qualitative and quantitative (SPSS) use of data for evaluation purposes. The results derived from individual perceptions of the internal functioning of teacher teams within the faculty show that insufficient importance is attached to these teams as functional management units. This has a direct impact on the tasks and quality of the processes they implement, and consequently on team and faculty objectives.

Keywords: university, teacher team, conditioning factors, opportunities

Condicionantes y Oportunidades para el Trabajo en Equipo. Estudio de Caso en una Universidad de Cataluña

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Resumen

El objetivo de este artículo es analizar los condicionantes y las oportunidades que influyen en el trabajo en equipo de los docentes, en una facultad de Cataluña. La creación de nuevas identidades académicas, basadas en una cultura de aprendizaje mutuo y continuo, se presenta necesaria para impulsar a los equipos docentes. La metodología empleada ha sido la descriptiva a través del enfoque de estudio de caso para examinar los condicionantes y oportunidades para el trabajo en equipo, desde una perspectiva estructural, organizativa y funcional. Los datos se han obtenido a través de la aplicación del análisis documental, la entrevista semiestructurada y un cuestionario con cinco niveles de respuesta. La aplicación de estas técnicas de recolección de datos ha permitido utilizar tanto el método cualitativo como el cuantitativo (SPSS) para su análisis. Los resultados, obtenidos a través de la percepción de las personas, muestran que la facultad estudiada no otorga la suficiente importancia a los equipos docentes para considerarlos unidades funcionales de gestión. Este enfoque facultativo repercute en las tareas y los procesos que desarrollan los grupos humanos, y en consecuencia en los objetivos tanto de los equipos docentes como de la facultad.

Palabras clave: universidad, equipo docente, condicionantes, oportunidades

Organizations often use the term *teamwork* as if it were a functional unit inherent to the institution or company itself. In Catalan faculties something similar occurs, although in practice, teamwork is not so visible. If faculties are successfully to face up to current challenges and demands, a coherent strategy is to know how people function within teams and how effective and efficient they are in achieving institutional goals.

Starting from the premise that teachers need to become process managers, the faculties must give due consideration to contexts that are favourable to the self-organisation of teacher teams and at the same time establish a team model that can be replicated and thus generate synergy effects between the team and distributed leadership (Bolden, Petrov and Gosling 2009; McRoy and Gibbs 2009; Rué and Lodeiro 2010).

Creating teacher teams as intermediate management units implies basing their functioning on the principles of cohesion, coordination and understanding (Witziers, Slegers and Imants 1999). These are the basic elements that facilitate the autonomy, cooperation and coordinated work of project development (Rué and Lodeiro 2010).

Defining teamwork from a holistic view requires analysis that ranges from faculty structure to the experiences of individual team members. Catalan universities grant faculties power to organise teaching in a way that addresses social demands. Consequently, the faculties must create appropriate organisational structures and consider teacher teams as middle-management units with the capacity to identify potential internal malfunctions and to base their approach on concrete aspects of their structures and processes (Alcover de la Hera, Rico and Gil Rodríguez 2011; González-Romá 2011; Lencioni 2003; Rué and Lodeiro 2010).

Studies on teamwork often focus on specific aspects, such as motivation, participation, effectiveness, efficiency, processes, results, tasks and leadership. However, some authors, including McRoy and Gibbs (2009), provide a more holistic approach, exposing the need for a more context-based leadership in order to foster change; or Rachford and Coghlan (1992), who refer to the significance of understanding the relationships between the various levels in the organisation; or Watson (2007), who creates a conceptual framework in order to examine how the creative process develops within an organization.

In this article we describe how individuals perceive the internal functioning of teacher teams and how these teams are seen to function within

the faculty. We used the data obtained to arrive at a holistic view, in which the environment, the faculty and the individuals all interact.

By adopting a case study approach to identify the conditioning factors and opportunities for teamwork, we were able to consider what teams need if they are to improve their internal effectiveness.

In accordance with our review of the literature, we established specific objectives that would enable us to analyse the factors that influence teamwork. These were:

- Objective 1:** to analyse how the university structure influences the creation of teacher teams.
- Objective 2:** to ascertain whether centres make provision for resources and support to enable teacher teams to function and develop.
- Objective 3:** to examine from a socio-technical perspective how individuals experience teamwork (task, process and result).

A Catalan University

Catalonia is one of 20 autonomous regions in Spain established by the democratic constitution of 1978. Since the 1980s the state has undergone a process of increasing decentralisation, devolving power to the various autonomous communities in ways which, despite similarities, also show up significant differences.

With a population of seven million, Catalonia is a region with a long history, a language of its own and distinct traditions, many of which date back to the medieval period.

Today it enjoys very wide powers in many areas of administration, including its universities. In practice, this means that although certain general aspects come under state control, the specific regulations and administrative management of Catalan universities are the responsibility of the regional government, in this case the Generalitat de Catalunya (Catalan Autonomous Government). Harmonisation of the Catalan university system with the framework of the European Higher Education Area (EHEA) has meant reforming the structure and organisation of teaching to respond to social requirements. This has forced certain faculties to implement simultaneously the changes necessary to bring teaching into line with the requirements and adaptation to the EHEA framework.

To generate a rapid and flexible response to this changing environment, the faculties have been granted greater autonomy, but at the same time their performance requirements have been increased. In this way each faculty has the scope to put in place an optimum organisational structure and to organise its own teaching and processes.

These adjustments have led to greater responsibilities in both the faculties and their teacher teams. For this reason, the centres must consider two factors: first, the difficulties involved in creating organisational structures consistent with requirements; and secondly, the institution must commit to reaching agreements and decisions adapted to the current crisis.

Teacher teams at university

The best organisations in the knowledge economy are those which base their activities on learning and where professionals work in teams. These organisations consolidate forms of operation which involve the sharing, exchange and generation of new knowledge (Hargreaves and Mata 2003).

The current need to adapt to a rapidly changing environment has turned faculties into complex organisations in which coordination is essential. The academic environment in Catalonia still depends on a culture of mutual learning, supported by the capacity to build teacher teams capable of developing it.

Circumstances such as these demand teachers with the specific skills to enable adaptation to change, process management, mutual learning and research (McRoy and Gibbs 2009). In this way many faculties will be able to position themselves as competitive knowledge organisations.

The words ‘group’ and ‘team’ are often used synonymously. Definitions of the word ‘team’ are consistent in general terms, but acquire significant nuances in academic literature. At its most basic, a team is a collection of individuals who work within an institution, sharing common objectives and with some type of hierarchical structure which usually coincides with the structure of that institution. More elaborate examples, however, address more specific dimensions, including the number of components, degree of interaction and relationship, organisational structure, responsibilities, shared objectives and psycho-social aspects (Rey, Martín and Sebastian 2008).

After reviewing the specialist literature, Tarricone and Luca (2002) summarise the six attributes necessary for a successful team as follows:

commitment of team members to the successful completion of objectives; a positive interdependence between team members that engenders an atmosphere of support and mutual learning; the presence of specific skills among team members that promote a work environment geared to effectiveness; open communication and positive feedback, in which criticism and suggestion find equal acceptance; team composition, in which all members know and understand the importance of their role within the team; and commitment in terms of processes, leadership and accountability to facilitate shared decision-making for problem-solving.

Knowledge about the way teams function has improved greatly over the last three decades (Bass 1985; Burke et al. 2006; Dyer 1984; Goodwin 1999; Salas, Goodwin and Burke 2008; Salas 2012; Rosen, Bedwell, Wildman, Fritzsche, Salas and Burke 2011). Nevertheless, factors such as technology, globalisation and the often complex nature of work force organisations to reconsider how important it is to understand the effectiveness of teams in their environment.

Current organisational trends once again consider the team as a key element, as was the case throughout the 1980s; but as stated by Salas, et al. (2008), it is now necessary to reformulate and reinterpret the ways in which teams operate in line with new contexts.

The vision of the team from a functional perspective, in which tasks, processes and results are interdependent, is not new, but it has led to the current differentiation between teamwork and taskwork as critical factors for the team's effectiveness. (Navarro, Quijano de Arana, Berger, & Meneses 2011). The functional perspective permits analysis of the team as a microsystem of work and coexistence, i.e. as a middle-management unit within an organisation.

The faculty, which is made up of teacher groups with team characteristics, can consider these as basic functional units within the organisation to which can be delegated responsibility for and coordination of the teaching curriculum (Katzenbach 2000:11-12; Witziers et al. 1999).

Conditioning factors and opportunities for teamwork

The previous section alluded to the need for faculties to reform their organisational model if they are to face up to new social, educational, structural and functional challenges. Their ability to achieve this will depend

largely on their having the flexibility, adaptability, creativity and capacity to take advantage of opportunities.

To this end, faculties must embrace cooperation and continuous improvement and show a positive approach to problem-solving and a commitment to optimising their capacity for learning about themselves and their environment (Hargreaves 1996).

As stated previously, teamwork calls for specific circumstances that are not always found in the faculties. On the one hand, obstacles arise which may hamper the functioning, development and performance of the teacher team. On the other, inadequate support is given to the circumstances necessary for teams to develop their functions consistent with a socio-technical approach, in which tasks, processes and results interact simultaneously (Navarro et al. 2011; Deneckere, Euwema, Van Herck, Lodewijckx, Panella, Sermeus and Vanhaecht 2012).

By defining the scope of the necessary circumstances (conditioning factors) and their appropriateness in time and space (opportunities), we are able to conduct a thorough analysis of how these two dimensions influence the new structural, organisational and functional demands of the faculties.

Structural conditioning factors

Teamwork within the faculties may be either fostered or hampered, depending on what is set down in state and regional legislature and the statutes of each university. Governments see higher education as an important aspect of bringing productivity and efficiency into line with the country's economic and social needs.

Current trends in higher education policy are causing tension at universities with respect to internal administration. Governments fear uncontrolled expansion, yet at the same time expect faculties to reform to meet the challenges brought about by change. The legislative basis appears ambiguous. On the one hand, laws promote the diversification of university profiles; and on the other, they expect the faculties to develop new projects that are more competitive within the knowledge economy. All this generates a conflict of choice between diversification and specialisation.

Faced with this dilemma, the faculties are forced to select the option most compatible with their history and with their strengths and weaknesses in terms

of human resources, image and reputation (Arata Andreani and Rodríguez Ponce 2009).

Organisational conditioning factors

Developing external and internal strategies, which permit adaptation to change, is a vital exercise for the faculties. Initiatives of the university system, considered here as external strategies, are promoting change within the faculties to bring about alignment with the economic and social needs of the country in terms of productivity and efficiency.

Internal change strategies, closely related to external strategies, require the faculty to consider the management and development of human resources as a key element.

This is an organisational matter in which managerial staff play an essential role; however, other structures such as those represented by the teachers and teams are also relevant. (Tomàs 2006).

Internal aspects of the faculty may hamper or facilitate the teacher team processes and the results that promote change, both for the groups of individuals and for the centre itself (Alcover de la Hera et al. 2011).

If faculties are to take into account internal enabling conditions, they must pay close attention to two aspects: first, planning for the time and space required for teams to meet and develop their activities unimpeded; and second, to give the teams sufficient flexibility to modify their internal structure as required, as well as to grant them the freedom to act in line with both institutional and team objectives.

Functional conditioning factors

The situations generated within a team may influence the work it does. By this we mean aspects such as the relationship between team functions and the results they need to achieve, the degree of interaction of members in line with workflow, their cognitive functioning as a team and the perception team members have of the relationship between the results obtained and the team's effectiveness.

At the internal level, the team as an entity must ensure that its individual members are flexible to the idea of change, tolerant towards internal differences and ambiguities, and prepared to accept situations of uncertainty

(West 2003). The effectiveness and efficiency of the team will be determined by the tasks they carry out and the results they obtain.

The tasks, defined as group behaviours oriented towards the execution of activities, together with the results they obtain through the processes they apply, jointly determine the need for and effectiveness of working in a team (Navarro et al. 2011).

The extent to which teamwork is required depends on the characteristics of the task to be carried out and the nature of the workflow. If the perception among individuals is one of effectiveness for both tasks and processes, there will be more feedback among the group and increased motivation to work together (Müller, Alliata and Benninghoff 2009). Two aspects of the task define teamwork: uncertainty and interdependence.

Uncertainty, defined by the relationship between what the group aims to achieve and actual results, provides information about the capacity of the team to undertake tasks. To obtain this information, it is necessary to explore whether each team member has the same perception of the various specific issues: what has to be done and how best to do it, the quantity and variety of information to be managed, the incompatibility of the tasks and the approach to new tasks.

Interdependence provides information on the direction of workflow between individuals and determines the degree of interaction among team members. Navarro et al. (2011) proposes four types of workflow. Minimum: the members have similar tasks and the final outcome is the sum of the individual outcomes. Sequential: the members develop different areas of the task in line with an established order and the final outcome depends on the efficiency of each step.

Reciprocal: the members have different tasks in line with their skills and knowledge and the final outcome depends on each member of the team and the coordination between them. Maximum network flow: the members collaborate on the task simultaneously and organise themselves with a view to diagnosing and resolving the task effectively and efficiently. This is a workflow which defines teamwork.

The fundamental reason for creating a team stems from the hope of completing a task with maximum efficiency. Since the task is a field in which the team seeks to attain task-linked objectives, a group without a task commissioned either by the organisation or the team itself is no longer a team, merely a social group (West 2003).

Teamwork becomes necessary when there are medium-to-high levels of uncertainty and reciprocal-maximal types of interaction (Navarro et al. 2011).

The results, the second aspect that determines teamwork, are dependent from a socio-technical perspective on the team's tasks and processes (Deneckere et al. 2012; Navarro et al. 2011). The close relationship between these three dimensions implies that the results depend on three aspects related to the perceptions of individual team members. First, the degree of internal organisation and coordination within the team; second, the level of mutual acceptance and interaction between individuals; and third, the degree of attention paid to the needs of team members. An effective team is one that displays high values for all three aspects.

The ability of the team to complete the task satisfactorily, intensify efforts to strengthen the group or the activity and attend to the needs of individual team members, will promote the sense of team membership and continuity.

Organisational opportunities

Applying internal strategies to manage and develop human capital presents an opportunity to improve conditions in the university context. Giving teams the resources they require will help them evolve and increase their effectiveness.

The balance between the resources of the faculty and the needs of the teams manifests itself in the form of the support it offers. The faculty should consider three types of support. First, a human resources system which includes training policies that focus on developing the capacity of people to work in teams and organise human capital in such a way as to permit team autonomy and establish mechanisms for compensation and performance evaluation. Secondly, an organisational structure which fosters the relationship between teams and the faculty.

This means that information channels are available in all directions. It also encourages teams to feel responsible towards the mission and vision of the faculty, since it sees them as effective tools. The organisational structure is one in which the upper levels support the proposals, the intermediate levels are catalysts and the teaching staff are agents.

Thirdly, a system of internal interaction, in which the teams participate in decision-making thanks to a leadership that fosters cooperation and a sense of belonging. We refer here to the concept of distributed leadership – an alternative to the centralised model – which is characterised by dynamism,

relationship and collaboration, as well as being intrinsic to the context in which leadership evolves. Authors such as Inman (2010) and McRoy and Gibbs (2009) consider distributed leadership as a characteristic of the organisation, whereas others such as Bolden et al. (2009) see it as a theoretical rather than a practical concept.

In the university context, in which the development pathway is forced to face up to competitiveness and the conflict between expectation and demand, the question is how the faculties can best offer a sense of continuity, motivate people towards a common purpose and mobilise collective forces throughout the institution.

One coherent strategy may be to change the established organisational model. The shift from a centralised leadership model to a distributed one may provide an excellent opportunity for improvement, since it harmonizes the social environment with the fluidity of actions.

Certainly this approach calls into question traditional bureaucratic and hierarchical organisational models. It is a model in which broader social relationships are seen as an opportunity for the faculty, which at the same time may help eliminate potential risks involved in the application of distributed leadership, such as distortion of the vertical organisation chart, a lack of connection between the different levels and the dispersion of responsibility.

Functional opportunities

As an efficient tool for meeting the demands of the internal and external university environment, teacher teams have the potential to improve all activities geared to boosting efficiency and effectiveness. The processes a teacher team develops internally influence the cognitive functioning of the group. One vital team exercise is to apply improvement strategies that target weaknesses. These internal group weaknesses are expressed through the team's degree of maturity; from a socio-technical perspective (Navarro et al. 2011) they manifest themselves through existing group development, the potency and identification of individual members with the group.

For a team to become efficient and effective, its members need to analyse, collectively and recurrently, how individuals perceive its internal functioning.

Analysis must focus on specific aspects. On the one hand, it must look at interpersonal relations and the degree to which members identify with the group, in order to discover the nature of the relationship and individual sense

of belonging to the group. On the other, it must consider the extent to which there is overlap between individual perceptions of team values. This establishes the degree of confidence and motivation that will give individuals the belief that – as a team – they can attain any goal. Achieving the level of “effective and efficient team” is labour-intensive but not impossible.

According to our review of the literature and in line with a structural, organisational and functional approach, our study shows the following conditioning factors and opportunities for teamwork (see Table 1).

Table 1
Conditioning Factors and Opportunities at each Level

Factors			
Conditioning Factors		Opportunities	
Level	Dimension	Level	Dimension
•structural	•legislation	•organisational	•support provided by the organisation
•organisational	•resources provided by the organisation	•functional	•team processes
•functional	•team tasks and results		

Method

In this section we describe the methodology applied in this study as well as the techniques and strategies for data collection. A descriptive methodology was used, based on a case study approach, in order to examine the structural, organisational and functional frame. This procedure enabled us to discover how individuals perceive the functioning of teacher teams in the specific context and under current conditions.

The procedure as a whole had the approval of the Animal and Human Experimentation Ethics Committee (CEEAH) of the Autonomous University of Barcelona (UAB).

Based on our review of the literature, we identified the levels, dimensions and indicators (see Table 2) and established the conditioning factors and opportunities, as set out in the previous section (see Figure 1), that were used in drafting the questionnaire and interview guidelines.

Table 2
Levels, Dimensions and Indicators Applied in the Study

Level	Dimension	Indicator
Structural	Legislative	
Organisational	Resources	<ul style="list-style-type: none"> •Space •Time •Flexibility
	Support	<ul style="list-style-type: none"> •HR management system •Organisational structure •Interaction
Functional	Tasks	<ul style="list-style-type: none"> •Uncertainty •Interdependence
	Processes	<ul style="list-style-type: none"> •Level of group development •Potency •Identification with the group
	Results	

Data collection and analysis techniques

In order to meet the expectations from a holistic perspective, the data were obtained through documental analysis, semi-structured interviews and the questionnaire. By applying these data collection techniques we were able to use both qualitative and quantitative methods for their analysis (see Figure 1).

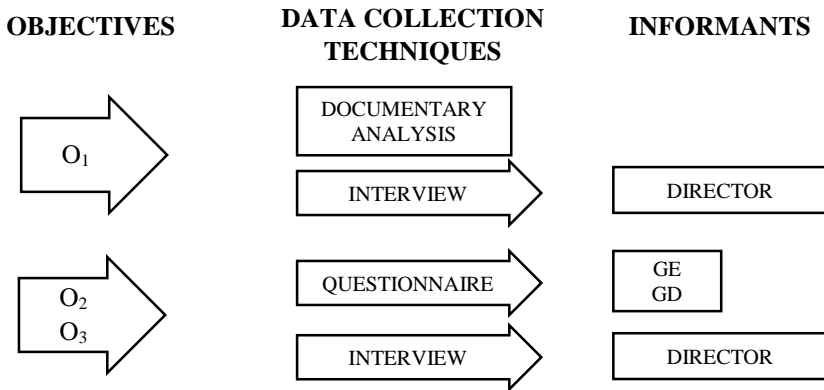


Figure 1
Relationship between objectives (Objective 1: O₁; Objective 2: O₂; Objective 3: O₃), data collection techniques and information.

The procedure applied for each data collection technique is set out below. For the purpose of documentary analysis, we adopted the technique of Content Analysis proposed by Glaser and Strauss (1967) (see Figure. 2). The universe was the legislation and regulations governing the faculty under review, as well as I2 of the interview (see Table 4). In order to establish the nine analysis units (AUs), we took a thematic criterion centred on the direct or indirect reference to the teacher teams, by which we were able to categorise data through a mixed process of induction and deduction. Data were transferred to a spreadsheet and translated into numerical values, in order to generate a table for each of the nine categories (categories and subcategories along the Y axis; AUs along the X axis).

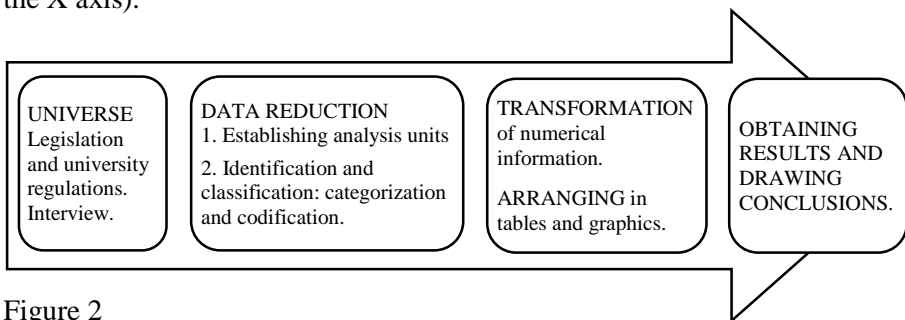


Figure 2
Content analysis process (Glaser and Strauss 1967)

The questionnaire was developed on the basis of the literature review and addressed the criteria of uniqueness, relevance and significance. For this purpose we used a Likert-type Item with five levels of response, as shown in the example in Table 3. Out of a total of 91 Items, 31 were specific to dimensions at the organisational level and 60 to dimensions at the functional level. Data were processed using SPSS software (Statistical Package for the Social Sciences).

For this purpose, variables (Items) were codified and qualitative dichotomous nominal variables quantified in order to generate tables and figures for each indicator's item.

Table 3
Sample of Questionnaire Statements

Organisational Level	1	2	3	4	5
1	The centre's organisational structure promotes interaction between the organisation and the work teams.				
2	In its organisation, the centre gives consideration to allocating physical areas for teamwork.				
3	The centre supports the autonomy of work teams in decision-making.				
4	Team members see cooperation as being fundamental to the organisation's effectiveness.				
5	The centre allows a transparent flow of information in both horizontal and vertical directions.				
6	The centre allows individuals to decide for themselves the team formation they consider best suited to execution of their tasks.				
7	The centre strengthens and facilitates leadership that guarantees adaptation of the work team to the demands of the environment.				
8	The relationship between the work team and the organisation is appropriate to the attainment of organisational objectives.				
9	The centre does not have a pre-set schedule for teamwork.				
10	The centre fosters social interaction of the various teams through clear and open communication.				

In order to develop a focused interview, we drafted a statement guideline (I_n see Table 4) based on the indicators and dimensions defined for the study. This approach enabled us to link the interview responses with the questionnaire responses and data from the documentary analysis.

During the interviews, questions were asked in no particular order so as to facilitate open responses. Data obtained on statements I₁, I₃, I₄ and I₅ were categorised and linked to the questionnaire with respect to each Item (variable). Data obtained in I₂ constituted AU₉ and was therefore linked to the documentary analysis and processed using the content analysis technique.

Table 4
Statement Guidelines for the Interview

I ₁	Biographical data of the individual (degree(s), previous responsibilities at the centre and elsewhere, managerial experience, university experience).
I ₂	We would like to hear what you think about the university's legislative framework. Do you think it specifies what the role of teacher teams should be in executing their functions?
I ₃	Tell us about the resources the centre provides for teamwork.
I ₄	Tell us about the support the centre provides for teamwork.
I ₅	Current trends in teamwork establish a link between task, processes and results. Tell us how this Works in your department.

Note. I₁, I₂, I₃, I₄, I₅ = statement guideline.

Findings

Questionnaire responses were received from the director and all GEs. For GDs, we received responses from 31 participants, with a margin of error of 0.1 (10%, participation was between 46% [56%-10%] and 66% [56%+10%]). For the results of the questionnaire the following parameters were considered: size of study population (n), valid values (Vv), lost values (Vp), mean (μ), median (Me), standard deviation (SD), minimum (Min), maximum network flow (Max). The results are presented in line with the research framework and the levels considered for the study.

Structural level

The centre under review defines its internal structure in line with its affiliation agreement, regional regulations (Autonomous Community) and national regulations. The centre possesses by law full autonomy to define the rules for functioning and internal organisation it considers most appropriate.

As such, in its internal rules and regulations the centre defines the functions and competencies of single-person positions but not those relating to teacher teams, as confirmed by the subjective response of the interviewee:

The functions to be accomplished by the teacher team are not clearly defined. One of the aspects introduced by the Bologna Plan was the shift from teacher to teacher team, in which teachers would share a lot more of the work. This situation is more prevalent in small centres. I think this is the case for our centre. The departmental system is very successful for research purposes but it does not work at teaching level. At least not for the departmental model we know.

Organisational level

According to the results obtained for the Resources dimension (see Table 5), the centre under review has sufficient space and time for teamwork, but does not have a pre-established schedule for teamwork (T3: Me = 2.00).

Table 5

Statistics for the Resources Dimension. Relationship between Indicators and their Related Item.

		Space indicator		Time indicator			Flexibility indicator			
		Esp 1	Esp 2	T3	T4	T5	F6	F7	F8	F9
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	6	6	6
	<i>V_p</i>	0	0	0	0	0	0	31	31	31
<i>μ</i>		3.16	3.54	2.38	3.97	3.38	3.19	4.00	4.00	3.00
<i>Me</i>		4.00	4.00	2.00	4.00	3.00	3.00	4.00	4.00	3.00
<i>SD</i>		1.191	1.169	0.861	1.040	1.187	1.198	0.632	0.894	0.632
<i>Min</i>		0	1	0	1	0	0	3	3	2
<i>Max</i>		5	5	4	5	5	5	5	5	4

Note. N = size of study population; V_v = valid values; V_p = lost values; μ = mean; Me = median; SD = standard deviation; Min = minimum value; Max = maximum value; Esp = space; T = time; F = flexibility.

Among the groups studied, there was no unanimous view concerning the criterion of flexibility necessary for teamwork. Responses from the GD group do not lead to conclusive results ($F6: \mu = 3.19$). However, both the GE group and director ($F7$ and $F8: \mu = 4.00$) assert that they have the remit to change team size and renew components whenever necessary, as long as they keep the team structure established by the centre. As stated by the director:

I assume leadership and in general this will not be transferred to anyone else – in specific or ad hoc situations, perhaps, but never as a whole team. I would agree to someone else taking the lead for a specific process in which I participate as group member. But I am the one who is held accountable.

There was agreement on the individual perceptions of leadership exercised (see Table 6, $L28: \mu = 3.32, SD = 1.107$).

Results obtained in the Support dimension reflect individual perceptions relating to the indicators (see Table 6). With reference to the human resources system, the faculty does not provide for a system of rewards and training policies for teams ($SR10: \mu = 2.49; PF12: \mu = 2.41$).

And with regard to the organisation's appraisal system, although this assures institutional quality, it does not provide for a performance evaluation of teacher teams ($Ev14: \mu = 2.78, SD = 1.315$). Lastly, results obtained for the Autonomy sub-indicator reveal the views of groups GE and GD.

In their opinion, the faculty grants teacher teams minimal decision-making power ($A15: \mu = 3.54, SD = 1.325; A17: \mu = 2.83, SD = 1.169$).

With regard to the organisational structure, results showed a positive perception, since informants indicated that the faculty fosters interaction and interrelation between teams and the organisation itself ($Es18: \mu = 3.65, I19: \mu = 3.59$) through vertical information transfer ($TI21: \mu = 3.57, SD = 1.094; TI22: \mu = 4.00$).

Table 6

Statistics for the Support Dimension. Relationship between the Indicators for Human Resources, Organisational Structure and Interaction and the corresponding Item.

	Human Resources indicator								Organisational Structure indicator							Interaction indicator							
	SR10	SR11	PF12	PF13	Ev14	A15	A16	A17	Es18	I19	TI20	TI21	TI22	Im23	Ap24	DP25	DP26	L27	L28	Cu29	Cu30	Cu31	
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	37	6	37	37	6	37	6	37	36	6	37	6	37	6	37	37
	<i>V_p</i>	0	0	0	0	0	0	0	31	0	0	31	0	31	0	1	31	0	31	0	31	0	0
	μ	2.49	3.51	2.41	4.41	2.78	3.54	3.65	2.83	3.65	3.59	4.17	3.57	4.00	3.59	3.33	3.33	3.08	3.67	3.32	2.83	3.59	3.70
	<i>Me</i>	3.00	4.00	2.00	5.00	3.00	4.00	4.00	3.00	4.00	4.00	4.50	4.00	4.00	4.00	3.50	3.00	3.00	4.00	4.00	2.50	4.00	4.00
	<i>SD</i>	1.017	1.239	1.013	0.762	1.315	1.325	1.006	1.169	1.160	0.985	0.983	1.094	0.894	0.865	1.069	0.516	0.983	1.033	1.107	0.983	0.956	0.909
	<i>Min</i>	0	0	0	2	0	0	0	1	0	1	3	1	3	0	0	3	0	2	1	2	1	2
	<i>Max</i>	4	5	4	5	5	5	5	4	5	5	5	5	5	5	5	4	5	5	5	4	5	5

Note. *N* = size of study population; *V_v* = valid values; *V_p* = lost values; μ = mean; *Me* = median; *SD* = standard deviation; *Min* = minimum value; *Max* = maximum value; SR = rewards system; PF = training policies; Ev = evaluation; A = autonomy; Es = structure; I = interrelationship; TI = transmission of Information; Im = implication; Ap = learning; DP = dynamics of participation; L = leadership; Cu = culture.

The lack of a clear view among interviewees about participation dynamics (DP26: $\mu = 3.08$) is consistent with the ambiguity concerning responsibility towards faculty objectives (Im 23: $\mu = 3.59$). Also noteworthy are the results obtained with respect to organisational values (Cu29: $\mu = 2.83$).

Functional level

With regard to the Tasks dimension, the uncertainty indicator (see Table 7) reveals few incompatibilities or conflicts. Tasks performed by the GE and GD groups are compatible (Con 47: $\mu = 3.86$) and clearly defined (Cl 32: $\mu = 4.19$). Both groups perceive the need to select the most appropriate approach to be effective (Nov 41: $\mu = 4.14$). Nevertheless, both groups perceive that the tasks assigned to them are very diverse and therefore require processing of a great deal of information (Div 39: $\mu = 3.24$, $SD = 1.011$. Note the high level of dispersion in the responses).

Table 7

Statistics for the Task dimension. Relationship between Uncertainty indicators and corresponding Item number.

		Uncertainty indicator																	
		Cl32	Cl33	Cl34	Cl35	Cl36	Cl37	Div38	Div39	Div40	Nov41	Nov42	Nov43	Nov44	Nov45	Nov46	Con47	Con48	Con49
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	<i>V_p</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	μ	4.19	3.03	2.27	3.08	3.86	3.35	3.41	3.24	1.95	4.14	2.19	3.78	2.84	3.68	2.11	3.86	2.46	2.89
	<i>Me</i>	4.00	3.00	2.00	3.00	4.00	3.00	3.00	3.00	2.00	4.00	2.00	4.00	3.00	4.00	2.00	4.00	2.00	3.00
	<i>SD</i>	0.776	1.142	1.045	1.164	0.751	0.789	0.896	1.011	0.705	0.631	0.967	0.712	0.834	0.784	0.843	0.673	0.900	1.173
	<i>Min</i>	2	1	0	1	2	2	2	1	1	3	1	2	1	2	1	2	1	1
	<i>Max</i>	5	5	5	5	5	5	5	5	4	5	5	5	4	5	4	5	5	5

Note. *N* = size of study population; *V_v* = valid values; *V_p* = lost values; μ = mean; *Me* = median; *SD* = standard deviation; *Min* = minimum value; *Max* = maximum value; Cl = clarity; Div = diversity; Nov = novelty; Con = conflict.

With regard to the interaction indicator (see Table 8), results show that the workflow in groups GE and GD is mainly sequential (Sec 54: $\mu = 4.00$), although it sometimes presents a reciprocal (Rc 57: $\mu = 4.14$) and maximal interaction (Mr 60: $\mu = 3.92$).

Table 8

Statistics for the Task dimension. Relationship between Interdependence indicators and corresponding Item number

		Interdependence indicator										
		Mi50	Mi51	Sec52	Sec53	Sec54	Rc55	Rc56	Rc57	Mr58	Mr59	Mr60
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	37	37	37	37	37
	<i>V_p</i>	0	0	0	0	0	0	0	0	0	0	0
μ		3.35	3.51	3.16	3.41	4.00	3.59	3.54	4.14	3.27	3.70	3.92
<i>Me</i>		3.00	4.00	3.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00
<i>SD</i>		1.060	1.044	0.898	1.013	0.667	0.956	1.095	0.585	1.071	0.996	0.640
<i>Min</i>		1	1	1	2	3	2	1	3	1	1	3
<i>Max</i>		5	5	5	5	5	5	5	5	5	5	5

Note. *N* = size of study population; *V_v* = valid values; *V_p* = lost values; μ = mean; *Me* = median; *SD* = standard deviation; *Min* = minimum value; *Max* = maximum value; *Mi* = minimum; *Sec* = sequential; *Rc* = reciprocal; *Mr* = maximum network flow.

These results are confirmed by the statement of the informant:

Each person has a task and an assignment. There is a document in which every duty is explicitly defined for each position, from the deputy director to the coordinator. The task is relatively ambiguous. Nevertheless, we manage to get by until the end of the academic year – and that’s saying a lot. Objectives are imposed by circumstances. There are few tangibles in our work.

Turning now to the results obtained in the Process dimension (see Table 9), for the Group Development indicator, the two groups GE and GD reveal contradictory responses concerning interaction between members: one group perceived no interaction between members (Ig63: $\mu = 2.89$, *SD* =1.075), the other group was not aware of the existence of poor interaction (Ig 65: $\mu = 2.84$, *SD* =1.167). Note in both cases the high level of dispersion in the responses. GE and GD perceived a sense of being coordinated (Coo 67: $\mu = 3.86$), without clearly expressing the extent to which they share values (OM 66: $\mu = 3.32$) and care about group development (OM 68: $\mu = 3.54$).

Table 9
Statistics for the Process dimension. Relationship between the indicators Group Development, Potency, Identification and corresponding Item number

	Group Development indicator								Potency indicator							Identification indicator				
	Ig61	Id62	Ig63	Id64	Ig65	OM66	Coo67	OM68	Conf69	Mot70	R71	Mot72	P73	P74	Mot75	Pe76	Pe77	Ig78	Pe79	
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
	<i>V_p</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	μ	3.05	3.46	2.89	3.62	2.84	3.32	3.86	3.54	3.70	3.32	2.81	3.27	3.70	3.86	3.14	3.19	3.59	3.35	3.49
	<i>Me</i>	3.00	4.00	3.00	4.00	3.00	3.00	4.00	4.00	4.00	3.00	3.00	4.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00
	<i>SD</i>	0.941	0.803	1.075	0.794	1.167	0.915	0.787	0.836	0.702	0.709	0.938	0.693	0.702	0.855	0.787	0.995	0.927	1.060	1.096
	<i>Min</i>	1	2	1	2	1	1	2	2	2	1	1	2	2	2	1	1	2	1	0
	<i>Max</i>	4	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5	5

Note. *N* = size of study population; *V_v* = valid values; *V_p* = lost values; μ = mean; *Me* = median; *SD* = standard deviation; *Min* = minimum value; *Max* = maximum value; Ig = interrelationship; Id = identification; OM = goal orientation; Coo = coordination; Conf = trust; Mot = motivation; R = recognition; P = productivity; Pe = belonging; Ig = equality.

With regard to the results obtained in the potency indicator, both groups show a relative level of trust (Conf 69: $\mu = 3.70$) and motivation (Mot 72: $\mu = 3.27$), and despite seeing themselves as a productive group (P 74: $\mu = 3.86$), they do not expect recognition for their success (R 71: $\mu = 2.81$). In neither group was there a clear perception of personal identification with the group to which they belong (Ig 78: $\mu = 3.35$, *SD* = 1.060; Pe 79: $\mu = 3.49$, *SD* = 1.096).

The ambiguity of the interviewee’s response confirms the results obtained in the Process dimension:

Despite our differences, interpersonal relationships are very good. Without going into particular cases, I would give our ability to cooperate a score of 8. 10 points would be impossible, considering that our group is made up of eight people with individual characteristics and opinions and that the results are not tangible. I do believe that we are able to address challenges, but we are always aware of the possibility of failure. I don't think everybody feels the same. There is a little of everything. Some feel undervalued in certain circumstances. Others feel highly valued. To a certain extent this is my responsibility. The disparity of views within the team generates frictions and conflicts.

Finally, the results obtained in the results dimension (see Table 10) show medium to low scores.

Table 10

Statistics for the Results Dimension. Relationship between the indicators and the corresponding Item number.

	Achievement of Objectives indicator					Group Continuation indicator				Meeting Needs indicator			
	CO80	CO84	CO86	CO88	CO90	MG82	MG83	MG87	MG91	SN81	SN85	SN89	
<i>N</i>	<i>V_v</i>	37	37	37	37	37	37	37	37	37	37	37	
	<i>V_p</i>	0	0	0	0	0	0	0	0	0	0	0	
	μ	3.73	2.65	3.38	3.84	3.30	2.43	3.70	3.57	3.14	3.43	3.24	3.16
	<i>Me</i>	4.00	2.00	4.00	4.00	3.00	2.00	4.00	4.00	3.00	4.00	3.00	3.00
	<i>SD</i>	0.608	1.806	0.861	0.553	0.909	1.068	0.878	0.987	1.084	1.015	1.038	0.898
	<i>Min</i>	2	1	2	2	2	1	1	1	1	1	1	1
	<i>Max</i>	5	5	5	5	5	5	5	5	5	5	5	5

Note. *N* = size of study population; *V_v* = valid values; *V_p* = lost values; μ = mean; *Me* = median; *SD* = standard deviation; *Min* = minimum value; *Max* = maximum value; CO = achievement of objectives; MG = group continuation; SN = meeting needs.

Both groups, GE and GD, consider themselves effective (CO 88: $\mu = 3.84$) but they do not express a clear view about maintaining coordination and organisation for efficiency (CO 90: $\mu = 3.30$). They do not perceive problems of internal functioning (MG 82: $\mu = 2.43$, *SD* = 1.068. Note the dispersion in

the responses) but they also fail to show a clear common feeling of being a group (MG 91: $\mu = 3.14$, $SD = 1.084$. Note the dispersion in the responses). The responses also fail to provide a clear perception of whether individual personal needs are met (SN 85: $\mu = 3.24$, $SD = 1.038$. Note the dispersion in the responses; SN 89: $\mu = 3.16$).

These results contrast with the following informant's opinion:

Most of them show concern. Some are relatively open, others more reserved. It depends on their personalities. If someone is having a bad time, the others usually lend their support, because the same can also happen – or perhaps already has happened – to them.

Discussion and conclusions

In this article we have presented the conditioning factors and opportunities that influence teamwork. On the basis of the defined objectives and through individual personal experiences, we describe how teacher teams are perceived at the institution under review. We argue that although there is evidence for the existence of teams within the organisation, the study reveals little success in real terms concerning the link between teams and the organisational system. This is in line with the assertions of Guzzo and Dickson (1996).

The autonomy of Catalan universities to develop an organisational system more appropriate to the current reality presents an opportunity for them to improve their position in the university system as a whole. According to Arata Andreani and Rodríguez Ponce (2009), by analysing strengths and weaknesses within their environments, centres are better able to opt for an organisational model adapted to their vision and mission.

However, developing an adapted model hinders recognition of the faculties within the university community. If we are to move from this developing or embryonic phase to a more mature one which recognises the faculties, these must identify their limitations and implement improvement strategies with a positive impact both on people and the institution.

These limitations must be addressed through academic development practices that enable teaching-learning by leadership capable of capturing and promoting achievement in the different areas of development (Palmer, Holt and Challis 2011).

The faculty in our study does not take into account a team model that can be replicated in the organisation chart, as demonstrated by McRoy and Gibbs (2009), since it defines functions and competences for single-person positions but not those for teams. Given the need of the faculty in question to develop greater autonomy, possible internal strategies to be applied may include teamwork, proper interaction between teacher teams, and the conversion of team members into process managers.

Teamwork, as the first internal strategy, requires a reinterpretation of the functioning of teacher teams based on the learning culture (Hargreaves and Mata 2003; Salas et al. 2008). This type of culture calls for reciprocity between the responsibility of individuals and the faculty's recognition of teams as effective management units. The construction of this enabling framework requires the existence of concrete factors. On the one hand, the availability of optimum time-space conditions to facilitate teamwork. On the other, an organisational structure that provides for distributed leadership, in which responsibility rests with every individual in the faculty.

We are referring here to a leadership in which the upper levels support the proposals, the intermediate levels are the catalysts and the lecturers are the agents (Inman 2010; McRoy and Gibbs 2009).

At the faculty in question, two main factors hinder the composition of effective teacher teams and the development of a learning culture. First, a lack of time scheduled for meetings, which hampers individual learning, learning of teams within the faculty and the establishment of shared leadership. Secondly, a human resources management system without clear focus, since it does not attach sufficient importance to the training and evaluation of teacher teams.

This second aspect has a direct impact on the effectiveness, recognition of achievements and responsibility of individuals towards the faculty. It would therefore be advisable for the human resources management system to develop and implement plans with a focus on training for teamwork strategies and the evaluation of teacher teams.

As a second internal strategy, proper interaction between teacher teams and the faculty offers the opportunity for synchronous growth in both. The centre in question displays an asynchrony which has a direct impact on the feedback and coordination necessary for the growth and development of individuals, teams and as a consequence for attaining the objective of being effective and

efficient institutional management units capable of handling the innovation which adaptation to EHEA entails.

Finally, the third internal strategy, which refers to the conversion of teachers into process managers, calls for well-qualified, specialised teachers with specific skills and that enrich the team (Gil Rodríguez et al. 2008; Gómez Mújica and Acosta Rodríguez 2003; Katzenbach 1996). Evidence of team-defining conditions can be found by examining groups using the socio-technical approach (Deneckere et al 2012; Navarro et al 2011); according to this approach, groups attain team conditions only when there are medium-to-high levels of uncertainty and interdependence, group development (identification with group values, coordination and sharing of objectives) and efficiency through the achievement of objectives.

Results obtained at a functional level show that teamwork is seen as unnecessary. First, the groups under review show medium-to-low levels for the task indicators, resulting in a weak link in the task-outcome relationship, a low level of shared mental perception and in a workflow that does not stimulate interaction between members.

Secondly, the groups under review take a more individual than group approach to developing processes, which results in weak identification with the group to which they belong and the perception of being groups with a low level of potency. Thirdly, since group members perceive low levels of organisation, coordination and unity within the groups to which they belong, there is little potential to remain as teacher teams in the long-term.

The lack of consideration given to teacher teams as management units within an institution has a direct impact on the individuals and the institution itself. An institution has to be creative and motivated if it wishes to position itself as competitive and successful in the university context.

Creativity is generated at the individual level, in the interactions of group work and in the multi-level organisational systems (Watson 2007).

Creativity will also stimulate people's motivation when they see that their individual efforts have an impact on the success of the faculty (Müller et al. 2009).

Consistent with the objectives outlined for this study, we may conclude that there are no regulatory barriers to prevent the creation of teacher teams in the faculties. However, the faculties must provide the opportunities necessary for teams to function effectively and efficiently. In order to generate this reciprocity, the faculty could provide personal development for individuals

within the teams and those in the faculty, thereby fostering a sense of belonging. The failure to consider teacher teams as an internal strategy for institutional growth hampers its potential to position itself as a high-quality faculty in the university environment.

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