

DO MOTIVATED TEACHERS GENERATE MORE MOTIVATED STUDENTS: A CLASSROOM INVESTIGATION ON MOTIVATION AND ENGAGEMENT

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Abstract:

Secondary school period (aged 12 to 16) is one of the most complex phases in students learning and vital life span, experimenting crucial changes and growth in all senses. The purpose of this study is twofold: first, we aim to investigate on the differentiated perspectives of motivations of teachers, on the one hand, and students, on the other hand, as well as to relate the motivational construct to possible determinants (type of school, type of subject coursed, course level and number of students in class). Second, we aim to correlate the motivation levels of teachers with classroom motivation, ultimately searching to answer the question if and up to what degree motivated teachers generate more motivated students. Our empirical data corresponds to 10 educational centres in Girona, Spain. A total of 69 teachers and 1399 students participated in the study in 2013. Findings show relatively high levels of motivation and engagement in both collectives analysed, low variation according to the considered determinants and a positive but low correlation between teachers' and class motivation and engagement.

Keywords: motivation, engagement, teacher, student, school, Spain.

1. INTRODUCTION AND CONTEXT

Increased competitiveness and socioeconomic progress is a top priority on any nation's agenda (World Economic Forum, 2016). All agents have a role and a possible input in contributing to this objective. Quadruple Helix (Carayannis and Campbell, 2012) and systems of innovation approaches predicate the connected nature of actors with different and each time less clearly delimited roles. However, behind all these pillars – business, academia, policy-makers and the society in general – persons are present.

The engine that moves persons towards action or certain inclination and behaviour is known as motivation. It is a concept often used to explain behaviour and action. It is concept having its origin in the field of psychology, but its proliferation to all other fields makes it present even in popular culture. Its relevance in the fields of work, employment and human resources as well education is undoubtable, in general, and in relation to individual and organisational performance, in particular.

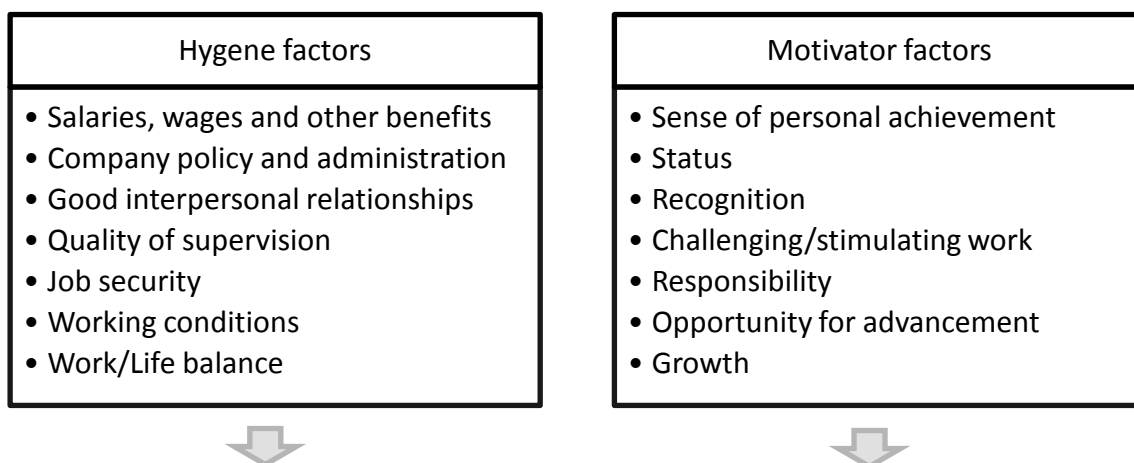
Certainly organisations capable to generate, dispose, manage and retain more motivated employees are the ones that count with more satisfied and more engaged employees being ultimately the ones that generate more positive outcomes. The crucial role that educational centres have in developing the new generation and future citizens, together with families and the society in general makes school a fundamental entity in the education of persons. It is a space where teachers and students co-exist and co-work and in the daily operations of each of these collectives motivation is the backbone of their work. For teaching staff motivation is an ingredient for satisfaction and compromise in their work, while for students, motivation is the engine that moves them along their learning process and progress. Motivation at work is determined by a series of factors some of which are reflected in Picture 1.

It is in this context that we aim to develop a study having its main objective to answer the following research questions:

- Research question 1 (RQ1): What is the motivation level of teachers and students and according to which factors varies?
- Research question 2 (RQ2): Whether and up to what degree is there a relationship between teacher's motivation and class motivation?

Therefore the study aims to capture the vision, perception and satisfaction of teachers and students in educational centres in Girona (Spain) with the ultimate objective of disposing of an initial measure that could further contribute to the formulation of possible improvements for the obtaining of a better teaching and learning.

Picture 1: Aspects relative to motivation at work



When in place, these factors result in
<ul style="list-style-type: none"> • general satisfaction • prevention of dissatisfaction

When in place, these factors result in
<ul style="list-style-type: none"> • high satisfaction • high motivation • strong commitment

Source: Strategic Leadership Institute (2014)

2. METHODOLOGY

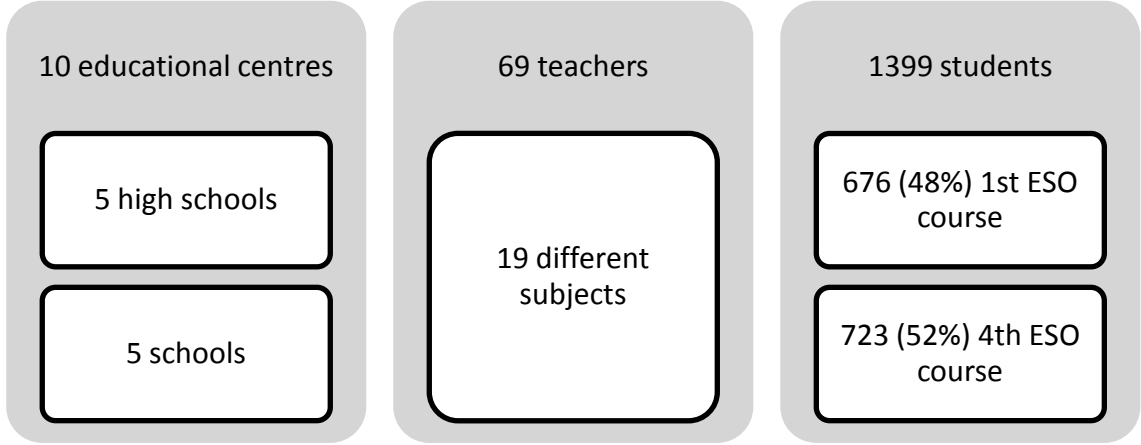
The objective of this section is to describe the main characteristics and deployment of the fieldwork, the instruments/questionnaires used for the two different targets analysed as well as to present data goodness of fit and quality issues.

2.1. Fieldwork

In order to conduct the fieldwork we selected educational centres corresponding to secondary school training (12 to 16 years) in the city of Girona, one of the four provinces forming Catalonia, a North-Eastern region of Spain being an educational referent in national and international contexts.

The aim was to collect the maximum possible amount of data corresponding to the academic course 2012/2013 for the selected type of institution. In operative terms centres were invited to collaborate and, once their acceptance, they were visited in a limited hour range (for example, from 10 to 12 AM) when questionnaires were delivered and collected after approximately 15 minutes. Respondents correspond to teachers and students present in the educational centre at that time. Picture 2 summarizes the study in figures.

Picture 2: Main numeric characteristics of the study



Note: ESO (*Educació Secundària Obligatòria*) meaning Mandatory Secondary Education (12 to 16 years)

The questionnaires were delivered on paper and a brief explanation was conferred in order to assure their correct completion, especially regarding the correct circling of the response, error correction or modification of an initial answer and the scale used. This step is important since the data introduction and digitalisation was realized with an optical reading technology. Table 1 includes the methodological summary of the study.

Table 1: Methodological summary

Characteristic	Value
Participants	1468 subjects
Geographical coverage	Girona (Catalonia, Spain)

Fieldwork begins	May 2013
Fieldwork ends	June 2013
Participation	Selective
Questionnaire	Paper
Filling time	15 minutes (approximately)
Data introduction	Optical reading
Reading reliability	High (100 manual random checks)

Source: own elaboration.

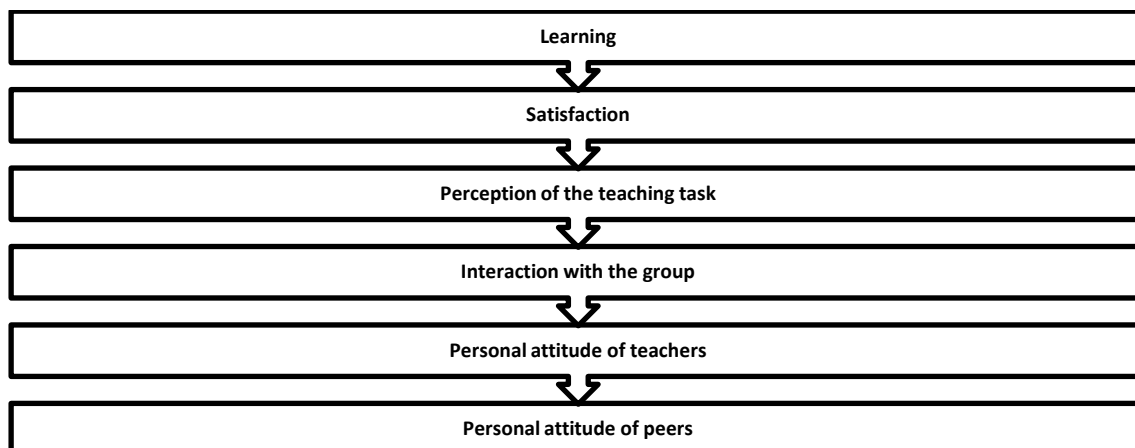
2.2. Survey instruments

In order to carry out the study two different questionnaires were developed since motivation and engagements facets are different for the analysed target groups, teachers, on the one hand, and students, on the other hand. The questionnaires were developed based on previous work in the field (Martin, 2009; Turnure Pickens, 2007;), the practical experience of the working group and aligned with the objective of the study, namely to relate student and teacher motivation in a classroom experience.

The different instruments¹ contain a different number of questions: the teacher version included 40 questions while the student version had 28 questions. The questions were not thematically organised and they intentionally appeared in certain disorder.

The evaluation scale was unique for both targets and consisted of a 4 point Likert scale. When converting scale items into numeric values, 1 corresponds to “*Totally disagree*” and 4 to “*Totally agree*”.

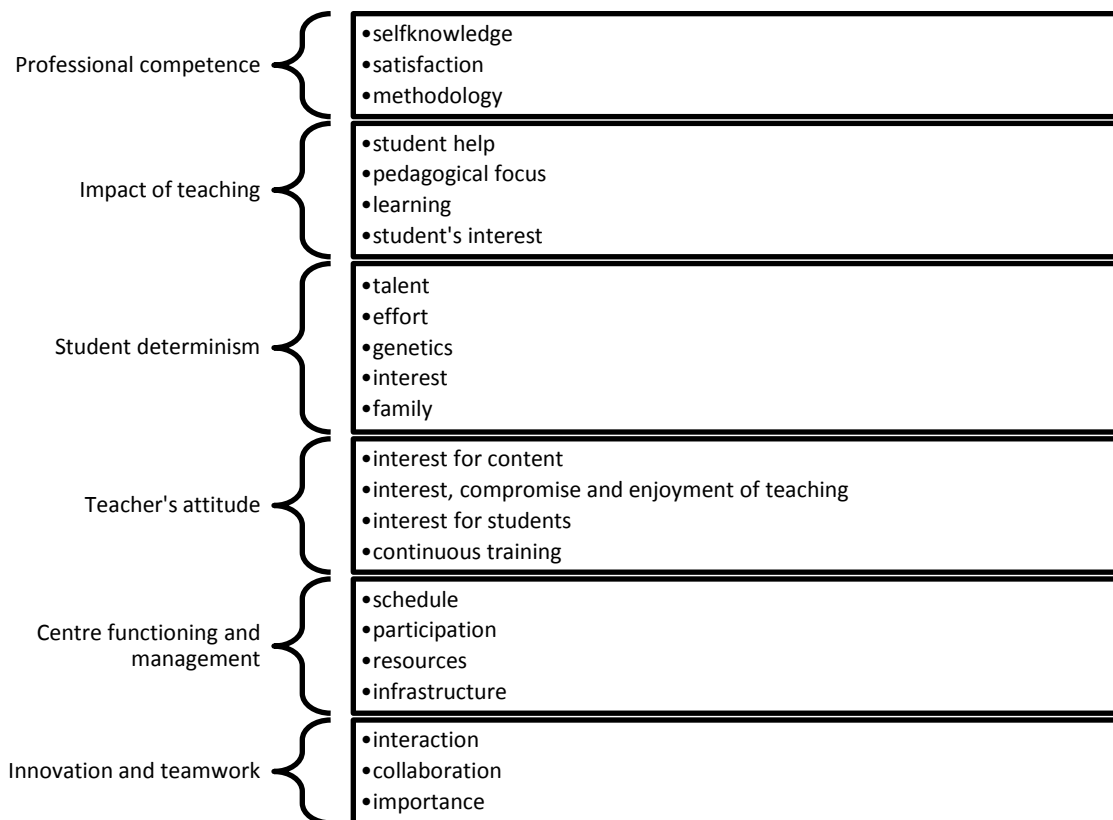
Picture 3: Student questionnaire, topics



Source: own elaboration.

Picture 4: Teacher questionnaire, topics

¹ The instruments are available upon special request from the authors.



Source: own elaboration.

2.3. Representativeness and reliability of data

In order to assure quality and reliability of results a series of aspects relative to the data were contemplated. A detailed analysis was performed in order to check the reliability of the different scales and sub-scales. Table 2 summarizes the main representativeness and reliability indicators. It can be observed that almost 20% of all teachers at levels 1st and 4th have answered our survey with a minimum of 8%, mean 20% and maximum of 25% in one of the cases. This further means that one fifth of teachers teaching 12 and 16 years students in the city of Girona have completed our petition.

The same figures corresponding to students show higher representativeness levels, with mean participation of 64%, with values ranging from 26% to regularly over 70% and 84% in one of the educational centers. These figures mean that two thirds of students having 12 and 16 years participated in our study.

In terms of scale reliability we present we observe scale and subscale Cronbach's Alfa values. The closer approximation to 1 corresponds to major reliability. By convention, the minimum requirement in 0.7, a value which is exceeded by most of the scales and sub-scales used.

Table 2: Representativeness and reliability indicators

Characteristic	Value
Representativeness teachers	19% (8% - 25%)
Representativeness students	65% (26%-84%)
Global scale reliability teachers' motivation	Cronbach's Alfa: 0,941
Sub- scales reliability teachers' motivation	9 of 11 sub-scales Cronbach's Alfa > 0,750
Global scale reliability students' motivation	Cronbach's Alfa: 0,849
Sub- scales reliability students' motivation	5 of 6 sub-scales Cronbach's Alfa > 0,700
Statistical correctness of the analysis	Statistical Assesment Unit (Universitat de Girona)

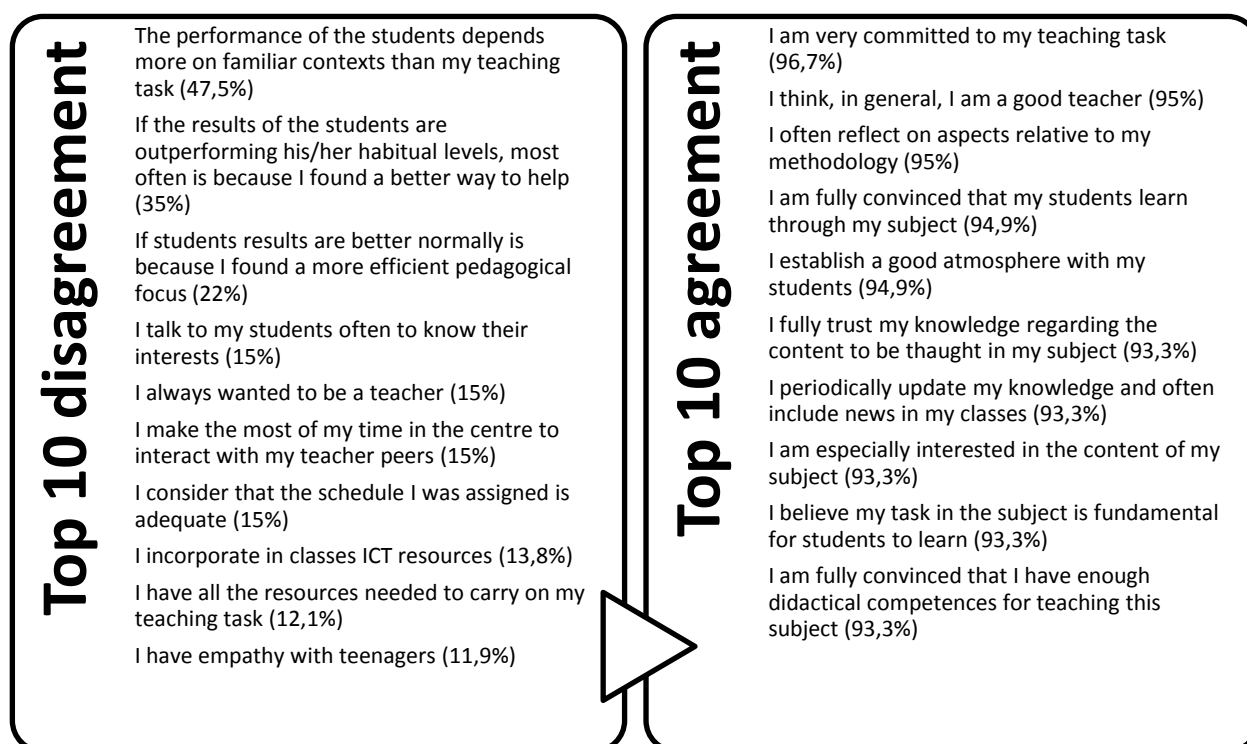
Source: own elaboration.

Overall, according to the previously presented information, we consider our data as having fair quality indicators in terms of representativeness and scale reliability issues.

3. SUMMARY OF RESULTS

The data collected is exploited through descriptive analysis working primordially with the original data and computing frequencies of the different responses, regular descriptive analysis (minimum, maximum, mean, median, SD), tests of differences in means and correlations. Due to the exhaustive amount of results and the length limitation of the present contribution we opt for providing a summary of the results².

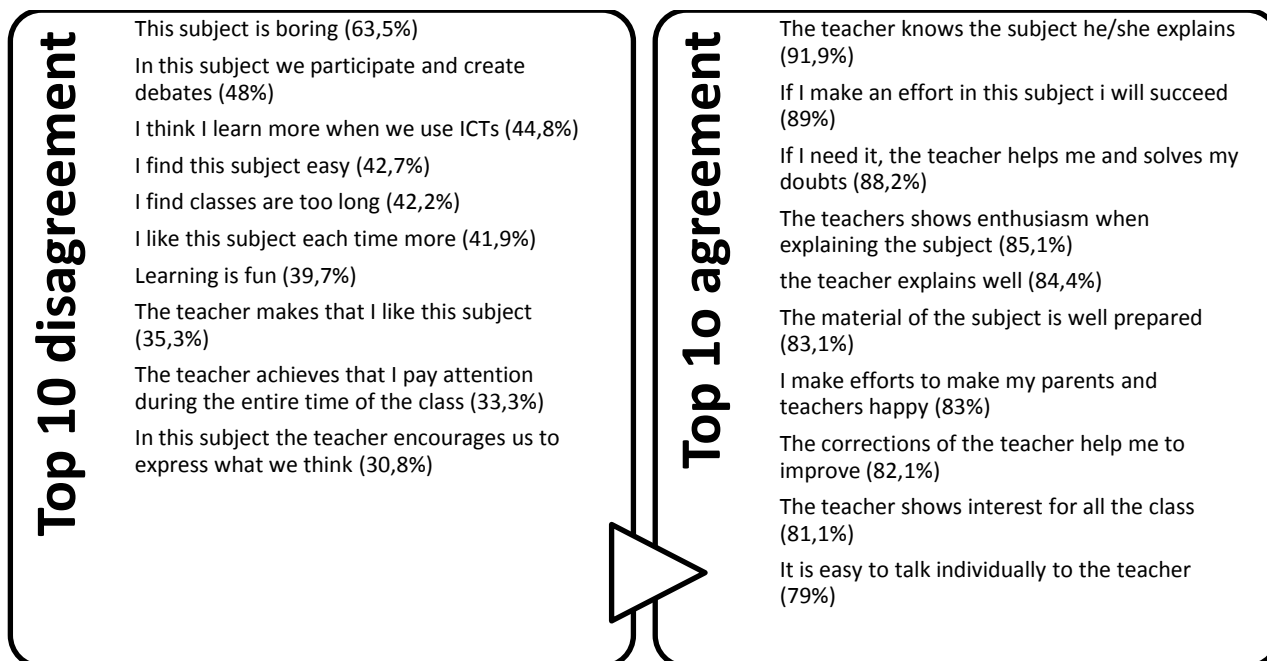
Picture 5: TOP agreement and TOP disagreement for teachers



Source: own elaboration.

Picture 6: TOP agreement and TOP disagreement for students

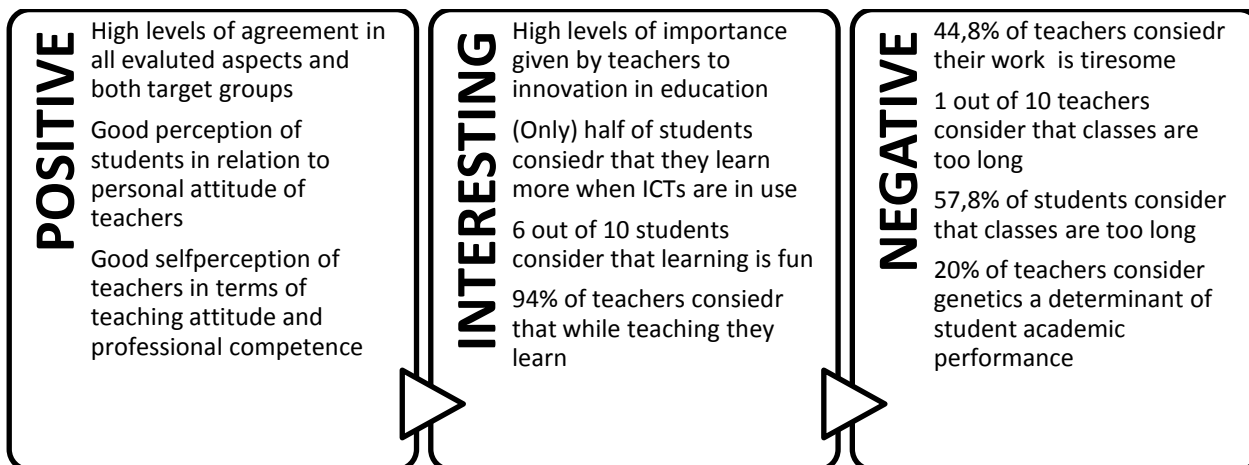
² Detailed results are available from the authors upon explicit request



Source: own elaboration.

A global vision of the most outstanding results is presented below following a PIN –positive, interesting, negative- structuring (see Picture 7).

Picture 7: Outstanding results



Source: own elaboration.

Exploring the determinants that mark variation in terms of the analysed perceptions the results are summarized in table 3.

Table 3: Global motivation levels and determinants

	Teacher	Students
Global motivation (min. 1 – max. 4)	3,24	3,00
<i>Variation according to</i>		
Type of educational center <i>Public versus non-public</i>	✓	✗
Academic course <i>1st versus 4th</i>	✗	✓
Type of subject	✗	✗

<i>Instrumental versus non-instrumental</i>		
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Source: own elaboration.

Finally, in table 4 we present the results corresponding to the correlation analysis relating levels of teacher motivation with class motivation. One of the main advantages of the present study is being able to relate teachers and classes. Existing studies are either focused on one or the other collectives which makes it difficult to draw classroom interventions.

Table 4: Correlation analysis

		Teacher motivation	Class motivation
Teacher motivation	Pearson correlation	1	,314*
	Sig. (bilateral)		0,014
	N	60	60
Class motivation	Pearson correlation	,314*	1
	Sig. (bilateral)	0,014	
	N	60	69

Note: *. The correlation is significant at level 0.05 (bilateral).

4. CONCLUSIONS

In order to synthetize the findings the authors opt for revisiting and answering the research questions.

RQ1 corresponds to *what is the motivation level of teachers and students and according to which factors vary*. Our study shows high level of motivations for both groups analysed, with slightly higher punctuation (3.24) corresponding to teachers as compared to students (3.00) making the teachers' community more motivated than students. Complementarily, we find variation according to course level (1st versus 4th level) in students, on the one hand, and the type of school (public versus private) marking motivational differences in teachers, on the other hand. The type of subject as a determinant of student and teacher motivation marks no differences among the targets. A further interpretation of these results shows: i) students' motivation varies and diminishes in this stage of studies considering extremes, ii) the type of school having consequences on resources, organisation and management impacts teachers' motivation, and iii) motivation and engagement in teachers and students is not reliant on the type of subject considered (mandatory versus optional ones).

RQ2 links teachers and students in classroom environments questioning *whether and up to what degree is there a relationship between teacher's motivation and class motivation*. Our findings show a positive but low intensity correlation between the related concepts. Consequently we interpret this result as i) a more motivated teacher has a more motivated class corresponding to the positive correlation, and ii) the relatively low intensity of the correlation might mean that other concepts intervene in this relationship, class motivation and engagement being the fruit of multiple and complex issues.

The implications of these results are various and should be addressed by teachers, school managers, teacher training entities, supra regional and national educational bodies. The value the study consists in providing an initial and global picture of motivation and engagement in schools, having no precedent. Even being exploratory it provides a positive image and transmits an optimistic image of the situation in school. The results are somehow surprising and against popular beliefs especially having conducted the study in crisis times. Consequently actions are pertinent and possible, and should be designed, applied and evaluated accordingly.

However, this process is out of the reach and interest of the authors who at least provide some preliminary, but shared, opinion about the study. First, the topic and the concept of motivation and engagement can certainly imply a socially desirable component and respondents might have included that in their responses resulting in a somehow biased result. In order to avoid as far as possible this aspect, respondents were not aware at any moment about the explicit purpose of the study. However, especially teachers could have an intuition on the purpose after having seen the questionnaire. It is also known that in these type of studies minimums and means are high and the upper extreme of the results figures need special reading. Second, the timing of the fieldwork is relevant and might have some impact on the results. The authoring team opted for the end of semester due to the reason of

giving enough time to students to know the teacher and the aspects that are relevant to class deployment, in order to have a solid and contrasted opinion on the teacher's trajectory when answering the questionnaire. Indeed, there is a possibility that results could have been different according to the moment of fieldwork (beginning or mid-course). Third, the moment of the economic cycle and its negative effects on the society in general might have some effects on respondents. Undoubtedly, respondents –especially teachers- have a near referent (family, friend, etc.) who might have a disfavoured social and/or labour condition, which might further make their own situation's interpretation more positive or optimistic (than reality). Finally, the results should be interpreted as a one moment in time result. Motivation and engagement has a dynamic component and longitudinal or follow-up exercises should be done over time in order to obtain a more comprehensive image of this complex matter.

Against all the potential of such a research we mention some of the limitations of our study. The main limitation is the instrument used in the fieldwork. The questionnaire targeting teachers refers to aspects such professional competence, teaching impact, student's determination, attitude, centre functioning and management and innovation and teamwork, while it does not include aspects that are classic inputs for dissatisfaction and conflict (compensation, conflicts with peers, parents, students, etc.) or aspects that are not directly related to teacher's work, but might have an impact on their motivation (personal situation, work-life balance, etc.). The main reason behind the inclusion of certain items -and the exclusion of others- relies in the survey conducting institution typology and interest³, limiting the questioned items to aspects that might be intervened by such an organisation and which could result in a concrete training offer to high school teachers and managers. Another limitation is the lack of detailed sociodemographic details of respondents, both teachers and students. The team opted for including some relevant aspects, but that do not cover the entire range of determinants in terms of motivation and engagement. This choice is justified by the good practice of anonymity of respondents. A too detailed sociodemographic profile, especially for teachers, would reveal their identity.

All the above mentioned limitation can be avenues for further research. A special interest remains in a possible qualitative complement in the sense of finding out especially *why* and *how* types of answers to the already found results.

ACKNOWLEDGEMENT

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³ ICE (Institut de Ciències de l'Educació) Institute of Educational Sciences having its main objective in training academic personnel at all levels of education