



ESCUELAS EFICACES

GOOD EDUCATIONAL PRACTICES AND FACTORS ASSOCIATED WITH SCHOOL EFFECTIVENESS IN SPAIN

WHAT CHARACTERISES
THE MOST COMPETENT
SCHOOLS?



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PRESENTATION

This document stems from the desire to share with the educational community the results obtained from the research project entitled *Identification of good educational practices in high added-value schools using Big Data techniques*. It is a project funded by the **BBVA Foundation**¹ (Leonardo Grants 2017) and has the following overall aim:

To produce and disseminate to the educational community a guide to good educational practices based on the study of factors associated with school effectiveness in competent schools identified from the PISA 2015 assessments.

This research project was carried out in 2 stages:

1. Selection of high- and low-effectiveness schools based on the results of the PISA 2015 tests in Spain

School effectiveness is understood as referring to the contribution made by the school to the level of academic knowledge of its students

¹The project was made possible thanks to the support of the Leonardo Researcher and Cultural Creator Grants 2017, BBVA Foundation (the BBVA Foundation is not responsible for the opinions and comments included in this document).

(mathematics, reading and science scores in the PISA 2015 assessment) through all of its activities, regardless of the contextual variables of the students (family socio-economic level, attendance at nursery school, mother tongue, etc.) and the school (size, multiculturalism, resources, etc.).

Thus, **the most competent schools** (identified as high-effectiveness schools) are those in which students reach a general level of knowledge that is clearly superior to that expected if only the contextual variables are taken into account. Meanwhile, low-effectiveness (less competent) schools are those that reach a level of knowledge that is lower than expected if these starting variables are considered.

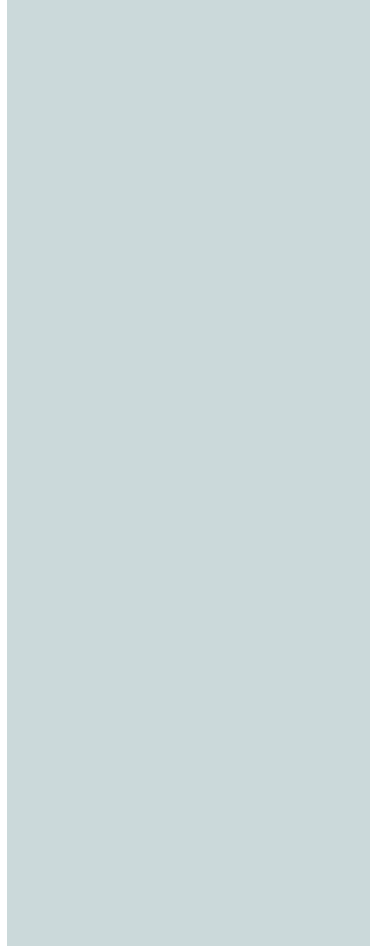
2. Identification of the educational factors present in the most competent schools in contrast to the least competent

The PISA assessments include abundant information that characterises both the organisation of the schools assessed and their management teams, teachers and students. To identify the educational characteristics that define the most competent schools, statistical data mining techniques were applied to find hidden patterns from Big Data. The following factors were found to be associated with school effectiveness:

- School organisation
 - Management and administration
 - Educational activities
- The role of educational agents
 - Characteristics, dynamics and teaching activities.
 - Habits, characteristics and perceptions of students and their parents

After this process of quantitative analysis, the results were discussed with various educational agents (administration, management teams and teachers) and orientated towards a more practical perspective.

In short, this document presents a **description of good educational practices and factors associated with school effectiveness found in competent schools**, which are intended to support the development of educational initiatives aimed at school effectiveness. The main purpose of this work, without wishing to preach or illustrate, is to encourage reflection by the educational community on the dynamics and effective activities that take place in school and extracurricular environments.



SCHOOL ORGANISATION

MANAGEMENT AND ADMINISTRATION IN COMPETENT SCHOOLS

The work of management teams
Personal and material resources
Organisation of the school timetable
Participation of parents

THE WORK OF MANAGEMENT TEAMS

Although ultimate responsibility for the decisions made by school head teachers and management teams rests with them, a competent management and leadership style is characterised by collective and shared decision-making. Beyond merely managing and controlling, their work should involve supporting educational initiatives and actions, teaching/learning processes, professional teacher development, etc., without losing sight of the school's ethos, goals and curricular profile. An increase in levels of school autonomy is associated with improved school effectiveness only if it is accompanied by a participatory leadership style in which all agents involved are empowered through the assumption of shared responsibilities.

- Autonomy and sole responsibility of the head teacher or management team for managing teachers, students, resources and school budget is associated with low effectiveness. Competent management teams are characterised by promoting shared responsibility and encouraging the participation of all educational agents in the decisions that affect the school.

- Management teams of competent schools gear their decisions towards the goals and curricular profile of the school. They exercise moderate leadership in relation to educational matters and support the initiatives of the teaching staff without needing to coordinate or direct them.



IN THE MOST COMPETENT SCHOOLS...

- Teachers actively participate in decision-making, showing themselves to be more involved and engaged in school organisation.
- Teachers have high levels of autonomy in the choice of curricular subjects offered by the school.
- The school's goals and curricular profile are defined and shared, and the entire educational community is orientated in that common direction.
- The management team is neither exclusively orientated towards control or supervision of educational processes, nor is it negligent in avoiding the assumption of its responsibilities.
- Beyond merely managing or coordinating school activities, the work of the management team is geared towards promoting and supporting the initiatives of the various educational agents.
- The educational community considers that the management team is exercising appropriate leadership and is satisfied with its work.

The work of management teams
Personal and material resources
Organisation of the school timetable
Participation of parents

PERSONAL AND MATERIAL RESOURCES

In any organisation, the availability of adequate resources for carrying out its functions and goals promotes success in its activities. It should however be noted that resources are limited in any system, so efficient distribution is necessary. In this regard, not only is it necessary for schools to have sufficient personal and material resources of good quality and in good condition, they also need to be used effectively. The most competent schools therefore are not those that have the most resources, but those that optimise what they have, provided that the resources are sufficient and in good condition for use.

- While the most competent schools have an adequate level of good quality resources, the mere availability of a wide and varied range is not a sufficient condition to ensure school effectiveness.



IN THE MOST COMPETENT SCHOOLS...

- Student/teacher ratios are usually lower (around 10 students per teacher), regardless of the number of students per classroom.
- The teaching staff does not consider the school's infrastructures or educational materials to be in a serious state of deterioration or severely lacking.
- Sufficient computer equipment (PCs connected to the Internet, acceptable computer/pupil ratios and interactive whiteboards) is available, but not necessarily abundant technological resources (laptops, tablets, Wi-Fi available for students, etc.). Widespread availability of technology in classrooms and schools does not necessarily lead to an improvement in the learning of students.
- The school's website is used to promote communication and contact with the community: Students tend to participate in the website as a space to share their school and extracurricular activities with the community.

The work of management teams
Personal and material resources
Organisation of the school timetable
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ORGANISATION OF THE SCHOOL TIMETABLE

Proper planning of the aspects that affect the school's daily-to-day activities is a priority matter and associated with an effective management style. Thus, the management of school timetables becomes a key aspect of school organisation. In this regard, competent schools usually have careful and systematic planning of all of their activities, including school timetables, and are also characterised by strict fulfilment by the teachers of the established timetable.

- The use of sessions in the classroom and the effective weekly time allocated to imparting the different subjects of the curriculum are two of the school factors that most clearly differentiate competent schools from those that are not.



IN THE MOST COMPETENT SCHOOLS...

- Teachers respect the pre-established time allocation, maintaining balanced weekly learning time among the core subjects. In some less competent schools, it is usual for students to state that they receive more time in mathematics than in language and literature.
- The optimum time for each lesson is between 45 and 55 minutes. In less effective environments, students often state that the effective duration of classes does not reach 45 minutes or, in other cases, that they receive uninterrupted lessons of more than 60 minutes.
- The effective time spent in the classroom on mathematics as well as language and literature should be greater than 150 minutes per week, without exceeding 225 minutes.

The work of management teams
Personal and material resources
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PARTICIPATION OF PARENTS

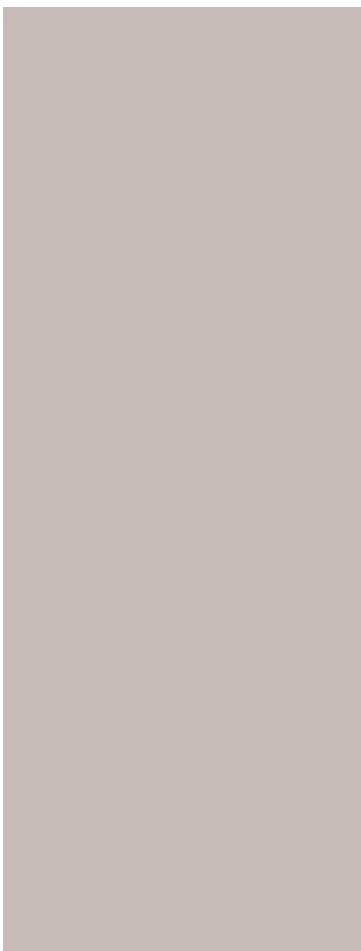
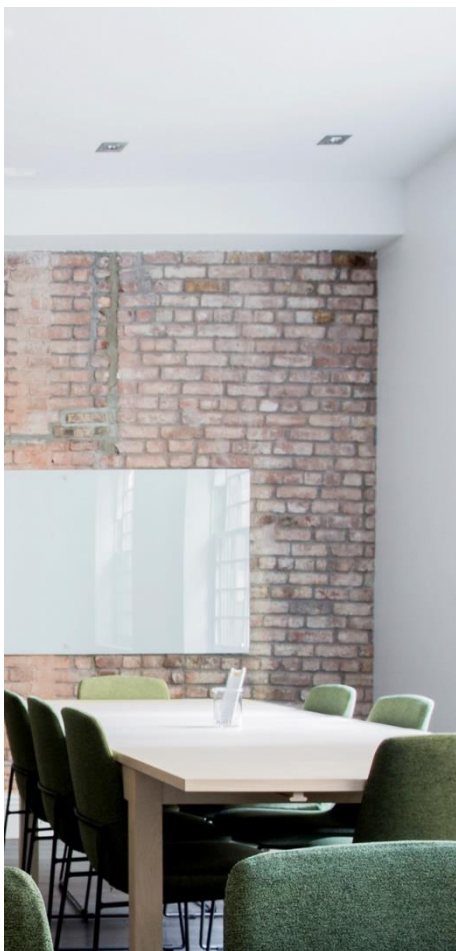
Active and continued participation of parents in the life of the school is a fundamental factor for student learning, and the school has an essential role in encouraging and supporting the participation processes of these key educational agents. Clearly planned and organised participation, in which there is constant communication between parents and school, promotes teaching quality, the satisfaction of all parties and the learning of the students.

- The school must plan in advance and enable the appropriate channels to articulate the presence of parents in the school, establishing channels of communication and fluid exchange.
- Transparency and mutual trust is essential: competent schools provide constant information to parents about the educational process of their children and about the functioning and dynamics of the school itself.



IN THE MOST COMPETENT SCHOOLS...

- Parents' participation in the life of the school is planned and structured, and not subject to the spontaneous initiative of teachers or parents.
- Parents receive continuous information about the academic development of their children through pre-established communication channels.



SCHOOL ORGANISATION

EDUCATIONAL ACTION IN COMPETENT SCHOOLS

School homework

School assessment and educational agents

Extracurricular and complementary activities

School coexistence and climate

SCHOOL HOMEWORK

In recent years, there has been widespread debate about the relevance of school homework as an effective resource to promote the learning of students, with it not obtaining robust evidence in this regard. Thus, while some studies indicate that frequent homework has a positive impact on student learning, other works find that this relationship does not exist, and even that an excess of homework can be counter-productive. Thus, coordination between teachers seems fundamental to ensure that student homework load is proportionate and distributed in a balanced manner. In this sense, competent schools are characterised by maintaining strict control and coordination with respect to homework to prevent an overload for students, ensuring that the volume of homework is distributed in a balanced manner among the various subjects of the curriculum.

- Increased homework load does not lead to an improvement in the learning of students. In fact, school environments with a higher homework load are often associated with lower school effectiveness.
- It is important for there to be coordination between teachers to establish a fair distribution of school homework among the

different subjects of the curriculum, taking into account their importance within it.



IN THE MOST COMPETENT SCHOOLS...

- There is a moderate general homework load for students.
- Teachers coordinate among themselves to prevent homework overload in a few subjects to the detriment of the rest.

School homework
School assessment and educational agents
Extracurricular and complementary activities
School coexistence and climate

SCHOOL ASSESSMENT AND EDUCATIONAL AGENTS

The commitment of schools to educational quality necessarily involves the implementation of planned assessment actions aimed at improvement. Thus, competent schools coordinate improvement plans from different departments and committees, gathering information on the operation of the school, teachers and students, etc., through formal and informal procedures. In this regard, the use of assessment as a punitive measure, instead of it being orientated towards improvement, or external control of educational processes instead of internal, exerts a reactive effect on the educational community, diminishing the potential of assessment. Another fundamental pillar is the academic assessment of students, which must be based on common standards and the use of formal assessment instruments.

- Any assessment promoted by the school must be orientated towards improvement: If used exclusively as a means of control and supervision of teachers' work through various strategies (classroom observation, strict control of teacher training, mentoring by expert teachers, etc.), teacher assessment can have an adverse effect.

- It is essential to base the marks given to students on assessment tests, whether they are prepared by the teacher or standardised, and to take advantage of the learning potential of them.



IN THE MOST COMPETENT SCHOOLS...

- There is a shared commitment and concern with educational improvement, so information is gathered about the school and the various educational agents to guide decision-making.
- The occasional use of standardised tests is usual to assess the performance of students, guide decision-making or orientate parents.
- Internal assessment processes over external ones have priority.

School homework
School assessment and educational agents
Extracurricular and complementary activities
School coexistence and climate

EXTRACURRICULAR AND COMPLEMENTARY ACTIVITIES

The educational action of the school goes beyond the classroom, both in terms of the range of extracurricular activities on offer and the carrying out of complementary activities coordinated from different levels. These activities and projects allow, among other things, the fulfilment of the school's ethos, exchange with other realities and closer contact with the community. All of this should be considered as an extension of the work carried out in the classroom and an activity integrated into the curriculum.

- Valuing and connecting the informal learning of students to course content in the classroom promotes meaningful learning and intrinsic motivation.
- Competent schools have a varied range of extracurricular and complementary activities on offer, providing recreational activities linked to the school curriculum (science club or competitions, chess club, school newspaper, robotics, philosophical Olympiads, etc.).



IN THE MOST COMPETENT SCHOOLS...

- The extracurricular and complementary activities are wide ranging and varied, and linked in a generalised way to the school curriculum.
- The range of extracurricular activities on offer is not orientated exclusively towards leisure (sport, arts, volunteering, ICT, etc.).

School homework
School assessment and educational agents
Extracurricular and complementary activities
School coexistence and climate

SCHOOL COEXISTENCE AND CLIMATE

Every organisation has to deal with natural and inevitable disputes and schools are no different. Hence the importance of implementing a global coexistence plan that establishes clear and concrete measures for the educational community, addressing not only disciplinary matters and punitive action for the students in the classroom context, but also all circumstances that may affect school coexistence. Ensuring the success of proposed measures for the improvement and maintenance of coexistence means involving and engaging the entire educational community, establishing a process of deep reflection and debate.

- Disputes occur in all schools, but in less competent schools it is usual for the developing dynamics to receive insufficient attention and lead to serious conflict (cases of bullying, harassment, unfairness, widespread misbehaviour, etc.).
- The teacher-student relationship is a key issue in the development of classroom climate. In less competent schools, there are usually students who feel they receive unfair treatment compared to classmates, or even claim that some teachers ridicule them in public.



IN THE MOST COMPETENT SCHOOLS...

- Control mechanisms for truancy and fulfilment of timetables are put in place, resulting in low levels of school truancy and lack of punctuality.
- The management team coordinates the school coexistence plan, enabling the necessary procedures to be put in place for its implementation.
 - Students feel that teachers are generally fairer.



THE ROLE OF EDUCATIONAL AGENTS

TEACHERS: CHARACTERISTICS, DYNAMICS AND TEACHING ACTIVITIES

Teacher stability and job satisfaction
Teacher professional development
Integration of ICT in teaching

TEACHER STABILITY AND JOB SATISFACTION

In spite of the fact that job stability is a factor that is often not under the control of the school itself, it emerges as an element with a determining influence on the organisational factors analysed above. It is difficult to have efficient school administration and planning that generates positive dynamics that are normalised in the school, or to carry out firm actions and plans orientated towards improvement and educational quality, if there is not a stable and committed staff. That said, it should also be noted that new teachers can provide a great boost to the school, as long as they are supported by an experienced team that is capable of channelling these innovative ideas towards the culture and goals of the school. In this context, teachers' satisfaction with their jobs and the school goes hand in hand with job stability: in competent schools, it is common for a significant proportion of the staff to be long-standing teachers and for most of them to be satisfied professionally.

- In the most competent schools, it is usual for a significant proportion of the teaching staff to be in a stable work situation, with extensive professional experience in the school. While teaching staff experience and stability is a fundamental element, it also needs to be accompanied by other factors to ensure school effectiveness.

- Teachers in less effective schools show generally low or very low levels of satisfaction and this is a determining factor that usually characterises schools with low effectiveness. Factors or practices that mitigate the negative effects on school effectiveness of the professional dissatisfaction of teachers in a school do not exist.
- While low levels of satisfaction are a sufficient condition for identifying a school with low effectiveness, high levels of satisfaction by themselves do not ensure school effectiveness, as they need to always be accompanied by other factors related to school organisation, teacher training, etc.



IN THE MOST COMPETENT SCHOOLS...

- A significant proportion of the teaching staff have extensive professional experience in other schools.
- A significant proportion of the teachers have a permanent contract and have worked at the school for some time, these being those that lead actions aimed at innovation and improvement.
- Most of the teachers state that they are satisfied with the school and their professional work and, if asked, recommend the school as a good place to work.

Teacher stability and job satisfaction
Teacher professional development
Integration of ICT in teaching

TEACHER PROFESSIONAL DEVELOPMENT

In a constantly changing and moving environment such as the liquid society, knowledge and skills acquired are relative today, but are uncertain in the future. Hence the importance of training throughout life, even more so in a profession associated with knowledge such as that of a teacher. Teacher professional development thus acquires vital importance. In fact, the commitment of a school's teachers to their professional development has a direct relationship with the educational quality of the school. The most competent schools have staff that are proactive in their ongoing training and participate regularly and voluntarily in professional development programmes. Thus, it is common for these schools to organise training activities requested by the teachers themselves after the identification of specific needs and issues.

- In schools where there is a permanent teaching staff with proven professional experience and acceptable levels of teacher satisfaction, the level of teacher training, both initial and related to professional development, stands out as a key factor for fostering school effectiveness.
- Lack of commitment by the teaching staff to ongoing learning is a characteristic that occurs repeatedly in less competent

schools, and is a dominant characteristic even when the school fulfils other requirements for fostering school effectiveness.



IN THE MOST COMPETENT SCHOOLS...

- Most teachers have received initial teacher training, either academic or practical.
- We usually find teachers with a higher educational level than necessary to perform their professional work.
- Teachers tend to be more involved in their continuing education, regardless of the topics in which they show interest.
- Teacher professional development is not perceived as an obligation. Requiring teachers to participate in professional development programmes limits their positive effects.
- It is common for teachers to participate in teaching networks in their area of interest, whether formal or informal.

Teacher stability and job satisfaction
Teacher professional development
Integration of ICT in teaching

INTEGRATION OF ICT IN TEACHING

Nobody doubts that one of the fundamental functions of a school, if not the main one, is to educate children so that they are able to function and coexist in the society that awaits them. And a basic characteristic that defines today's society is its abundance of technology, which justifies the relevance of incorporating ICT in educational processes. However, as happens in society, these technologies must be integrated naturally into both school dynamics and teaching/learning processes without being disruptive. All technologies are tools, and, as such, should serve as a support for achieving the proposed goals, which, in this case, involves the student receiving valuable and meaningful learning. The incorporation of ICT into teaching should not be considered as an end in itself, but as a means of promoting learning.

- Widespread and excessive use and integration of ICT into school activities, as an end in itself, is common in less competent schools. Highly frequent exposure to computers and the Internet in the classroom is typical of less competent schools, as is regularly communicating with teachers or classmates over the Internet, or widely using digital technologies to revise, perform tasks or do homework.

- The use of ICT in a manner that is controlled, planned and orientated towards the curriculum is shown as an important factor for encouraging and fostering the learning of students.



IN THE MOST COMPETENT SCHOOLS...

- Moderate use of ICT in teaching/learning activities is observed. School ineffectiveness is associated both with schools that expose their students excessively to ICT, and with schools where exposure is minimal or non-existent.
- The use of ICT is explicitly orientated towards curricular objectives (Internet searches related to topics studied, experimentation with virtual simulators of physical or abstract systems, etc.)



THE ROLE OF EDUCATIONAL AGENTS

HABITS, CHARACTERISTICS AND PERCEPTIONS OF STUDENTS AND THEIR PARENTS

Student characteristics and attitudes

Habits and activities before and after the school day

Extracurricular activities and classes

Availability and use of ICT

Parental support for school activities

STUDENT CHARACTERISTICS AND ATTITUDES

Along with all of the factors already analysed related to the organisation and activity of the school and the teaching and work situation of the teaching staff within the framework of this research, certain characteristics and attitudes have been widely identified among students in competent schools. That is to say, there are certain student-related aspects that help them learn better and over which schools and the different educational agents can exert a significant influence.

- Some characteristics and general attitudes of students related to coexistence and competitiveness, relationship with the school, critical spirit, emotion management or use of ICT seem to be present in different ways in more and less competent schools. It is therefore necessary to take into account these aspects and for schools to specifically address them.



IN THE MOST COMPETENT SCHOOLS...

- Students often say that they want their classmates to achieve good marks and that they are motivated to share different points of view and interests.
- Students value cooperative work more positively and there is less academic competitiveness.
- Students are more aware of the importance of individual work and effort for the development of their own competence, even over teamwork, assuming greater commitment and involvement with tasks and challenges started and not giving up easily.
- A significant proportion of students feel comfortable and supported at school. While in less effective schools students often feel lonely, alienated and uncomfortable.
- There is less anxiety about exams, homework and marks.
- Students show greater interest and positive orientation towards ICT, believe that they are more autonomous and competent in their use and value ICT more positively as a tool for individual and social learning.
- Students state that they have a great interest in environmental matters, showing themselves to be more critical with respect to its future.

Student characteristics and attitudes
Habits and activities before and after the school day
Extracurricular activities and classes
Availability and use of ICT
Parental support for school activities

HABITS AND ACTIVITIES BEFORE AND AFTER THE SCHOOL DAY

Although the influence of schools is limited when students leave for the day, it is essential to highlight the importance of activities carried out by students outside school in order to promote their learning process and academic development. In this regard, the educational work of schools does not finish when pupils leave for the day, it is essential to ensure that they are immersed in an environment that fosters habits for personal and academic success. An appropriate distribution of the extracurricular activities carried out by students outside school hours contributes significantly to their learning and progress.

- The distribution of students' obligations and leisure and academic activities outside school affects their academic performance. It is recommended that students perform these activities after the school day and that, before school, parents focus exclusively on ensuring that their children are properly rested and fed.
- While in less competent schools, in many cases, a high proportion of students state that they engage in certain activities before attending school (family or work obligations,

sport, reading, surfing or chatting on the Internet, studying or doing homework, watching television or playing video games, etc.), frequently carrying out activities after school does not harm effectiveness (with the exception of work obligations).



IN THE MOST COMPETENT SCHOOLS...

- It is most common for students to perform their leisure activities and family and school obligations at the end of the school day.
- Students regularly talk to their parents after school about school and non-school matters.

Student characteristics and attitudes
Habits and activities before and after the school day
Extracurricular activities and classes
Availability and use of ICT
Parental support for school activities

EXTRACURRICULAR ACTIVITIES AND CLASSES

As an addition to all of the daily tasks performed by students, we find extracurricular activities, either academic or purely leisure. Despite the evident importance of a diversity of activities to foster the all-round development of children, the latest scientific evidence warns of the danger of overstimulation and overactivity of young people. In this regard, less competent schools usually have a larger number of students with an overloaded weekly timetable.

- Student participation in an excessive number of out-of-school activities, whether curricular or extracurricular, is a factor that is clearly associated with school ineffectiveness. In the most competent environments, most of the students have a moderate amount of extracurricular activities.



IN THE MOST COMPETENT SCHOOLS...

- A lower proportion of students receive extracurricular support in core subjects of the curriculum.
- A significant proportion of students regularly attend non-academic extracurricular activities, but the weekly amount is generally moderate.

Student characteristics and attitudes
Habits and activities before and after the school day
Extracurricular activities and classes
Availability and use of ICT
Parental support for school activities

AVAILABILITY AND USE OF ICT

The importance of ICT in the current environment cannot be ignored given its pervasiveness in all sectors and social contexts. It does not therefore seem appropriate to isolate young people from this situation and hinder their contact with technologies. At the other extreme, excessive and uncontrolled use of ICT by adolescents carries risks and possible negative consequences. Thus, in family and school environments, it is necessary to address this issue, channelling the exposure and use of ICT to acceptable scenarios.

- Although the widespread use of ICT for leisure activities is common among students in all kinds of schools, filling classrooms and homes with technology without controlling and guiding use is associated with less competent schools. Organised and regulated use of ICT in the classroom and home is more common in the most competent schools, even in contexts where factors that hinder school effectiveness accumulate.



IN THE MOST COMPETENT SCHOOLS...

- The use of ICT as an information tool (searching for useful information, reading news, etc.) and knowledge exchange (seeking or providing help with academic or leisure difficulties, participating in online discussions on topics of interest, etc.) is encouraged.
- Although young people's access to the Internet, social media and video games is not prohibited or excessively restricted, parents and teachers take steps to regulate and control use to ensure that it does not become excessive.

Student characteristics and attitudes
Habits and activities before and after the school day
Extracurricular activities and classes
Availability and use of ICT
Parental support for school activities

PARENTAL SUPPORT FOR SCHOOL ACTIVITIES

The importance of establishing a strong relationship and coordination between parents and school, and how active participation by parents in the life of the school encourages student learning and development, has already been pointed out. Parents should also be aware that educational work needs to continue outside school and that they should support school activities in the home. Students who feel supported by their parents in academic activities achieve higher rates of school success, so schools should support and encourage these behaviours.

- Parental support for children in school activities, particularly emotional support and praising academic achievement and effort, positively affects their learning.



IN THE MOST COMPETENT SCHOOLS...

- Most students feel that they are supported emotionally by their parents in their homework and school activities.
- Students are generally autonomous in carrying out their homework, but have a relative on hand to help if necessary.



ESCUELAS EFICACES

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