↗ **What Works in Education?**

Using Evidence to Improve Education

What impact do after-school activities have on children's and youngsters' learning?

Sheila González Motos

Educational leisure has been identified as an influential factor in the cognitive development of children and adolescents, especially for those from disadvantaged backgrounds. However, there is a very heterogeneous array of after-school activities and a diverse range of entities organizing them, meaning that the quality of these educational leisure activities varies significantly, as do their impacts. This review of the evidence questions the point to which after-school activities work towards improving academic performance and psychosocial skills, and which programmes are most effective.

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What impact do after-school activities have on children's and youngsters' learning?

Sheila González Motos

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Motivation

After-school activities – understood as those that children and youngsters take part in outside of classroom hours – experienced major growth as women became more active in the labour market, ensuring that the children of working families had a safe place to stay while their parents were at work. More recently, these activities have risen in value, being seen as educational resources that can further children's learning, especially children with disadvantaged backgrounds. This in turn has made them a focus of attention for public administrations and educational equal opportunities policies.

After-school activities currently serve (to varying extents) three purposes: a) providing support to families by extending the time during which the child is under adult supervision, in the form of services outside of school hours; b) providing learning time for pupils outside of basic school hours; and c) frequently compensating for educational inequality to help certain collectives, either through programmes with academic content or through educational leisure programmes that work on other types of social skills, values or attitudes [1].

This study focuses its attention on after-school activities programmes that have explicitly educational content, meaning that it does not address play-type activities

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that are not pointed towards learning outcomes. Various studies and international organizations such as UNESCO and the OECD have identified educational leisure as an influential factor in the cognitive development of children and adolescents, especially among those from disadvantaged backgrounds. At the same time however, after-school activities have become an area in which social inequalities are reproduced, whereby a family's socioeconomic capital features as one of the main factors in the lack of equal opportunities to access these activities [1] [2]. Furthermore, there is a very heterogeneous array of after-school activities and a diverse range of entities organizing them; this, together with their non-formal nature, means that the quality of these educational leisure activities varies significantly, as do their impacts [3].

In a context such as that in Spain at the moment, where there is debate over the times children go home from school and a clear need for investment in the field of educational leisure, it seems a particularly good time to review the effectiveness of after-school activities, especially among the pupils most at risk.

International organizations such as UNESCO and the OECD have identified educational leisure as an influential factor in the cognitive development of children and adolescents, especially for those who are most disadvantaged.

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The programs we are referring to

After-school activities, educational leisure, extra-curricular activities or out-of-school time activities are some of the names given to the programs that make up non-formal education. Including a wide array of options, non-formal education is somewhere between formal education (that which takes place in educational centres, with a defined organisational structure and schedules, and clear learning objectives with exams and tests to validate results) and informal education (without clear organisational structures, a frequently unintentional product of social interaction, one which therefore takes place on a daily basis in a wide range of fields). Accordingly, non-formal education takes place in settings that can be more or less formal (from schools to community centres), sets programmes and objectives to achieve (generally combining academic goals and social skills) but does not have a structure or specific itineraries, and does not have exams or tests to validate results [4].

Non-formal education encompasses a wide and diverse offering of programmes and activities aimed at children and youngsters, principally those in compulsory education (in Spain, 3-16 years old): sports activities, artistic programmes, music and dance, remedial activities, youth organisations (cubs, girl guides, scouts), summer schools, weekend activities, and so forth. This review is focused on educational leisure that takes place on school days outside of school hours with a certain degree of regularity (at least weekly), and which is aimed at influencing the learning of the children and youngsters involved.

A first look at after-school activities enables us to differentiate programmes according to their contents, between academic learning activities and specific programmes. The latter category focus on one topic in particular, usually relating to sports or the arts, while those involving academic learning combine a range of different educational leisure activities (sports, arts, play, etc.) with educational content (principally remedial work on certain areas).[1]

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1 This review therefore does not include non-educational leisure programmes, i.e. those that do not encompass specific learning objectives. It also excludes programmes that are an extension of the school day and which, despite often being classified as non-formal education, include some elements that associate them with formal school education. Lastly, this review also ignores after-school activities included in summer learning programmes, these having been covered in a previous article in this publication.

Table 1.
After-school activities according to contents

Artistic activities	This category includes activities that involve creative and artistic disciplines such as dance, performing arts, painting, music, etc., as well as programmes in which the artistic elements are part of a learning methodology such as theatre pedagogy.
Sports activities	These include activities that use sport to increase children's and youngsters' commitment to and permanence in the education system. They may be extra-curricular activities run by the school itself or programmes run by sports entities or associations. They often combine the practice of a sport (used to attract pupils) with learning programmes (maths, reading, etc.).
Academic learning activities	This category of activities explicitly seeks to improve learning (and often social skills) through a combination of various activities involving diverse topics and methodologies, without any one theme being predominant in its contents.

Source: adaptation based on material from the Education Endowment Foundation. [2]

Besides these categories, it is also possible to catalogue after-school activities based on various different **organisational variables**, such as:

- *Profile of the participants*: the activities covered in this review encompass programmes aimed at a heterogeneous target audience as regards school performance and socio-economic characteristics. It also covers programmes focused on giving attention to pupils at risk, relating to their academic performance, their socio-economic characteristics or their environment.

- *Duration*: the activities covered vary in both their intensity (calculated as number of hours per week) of the programme and its length (weeks, months or years).

- *Stage of education*: the majority of the studies included in this review specify the stage of education at which the activities take place, differentiating between programmes aimed at preschool education (3-6 years old), primary school education (6-12 years old), secondary school education (12-16 year old) and post-compulsory education.[3]

- *Profile of the people running the activities*: in this regard three types of differentiation were made. The first aspect taken into account was the degree of expertise of the person in charge of planning and running the activity, i.e. whether they had a general level or were an expert on the subject. The second aspect, which was sometimes taken into account, was the type of connection with the organizing entity, differentiating between hired and voluntary personnel. Finally, the connection with the school curriculum was taken into account, distinguishing between teachers and other people from fields such as sports and the arts.

- *Entity organising the activity*: there is a very wide range of organisations providing educational leisure services and they can be classified in many ways. Without going into the finer details, a line can be drawn between activities run within the framework of public programmes (designed, financed and implemented by a public body) and those that, regardless of design and financing, are implemented by private entities (a very diverse range).

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2 The Education Endowment Foundation does not include after-school activities as a category, so this review of the evidence has taken its information from the sections dedicated to "Sports participation" and "Arts participation", as well as some of the meta-analysis data covered in "Extending school time".

3 The age ranges are approximate, with some variance between the different education systems analysed.

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- *Type of objectives*: all of the activities and programmes looked at in this review had objectives connected to academic progress (in some cases performance at school and in others attitude towards learning), but some of them combined academic objectives with wider focuses on psycho-emotional and social skills (reducing risk-taking behaviours, improving self-esteem, ability to relate, etc.).
- *Size of the group*: this relates to the number of pupils participating simultaneously in the activity. Some activities were performed by pupils individually, some in groups of a fixed number (large or small depending on the programme) and some programmes combined various grouping strategies during the activity.

It should be made clear that not all of the studies reviewed included all of these characteristics, and some used parameters or indicators that make comparisons difficult. This means that it was not possible in all cases to identify the weighting of each of these elements on the final impact attributed to the educational leisure.

This review is focused on educational leisure that takes place on school days outside of school hours with a certain degree of regularity (at least weekly), and which is aimed at influencing the learning of the children and youngsters involved.

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Questions influencing the review

The after-school activities covered in this review propose markedly different objectives and methodologies, but are alike in the fact that they take up a part of children's and youngsters' time outside of school with programmes of an educational nature. This review of the evidence sets out to provide keys to interpreting the effectiveness of the activities, seeking to answer five questions: 1) Does the educational leisure help to improve the academic results of the children and youngsters who take part? 2) Is an improvement observed in other, non-academic skills (for example, relating to attitude or socio-emotional aspects)? 3) What elements are characteristic of the educational leisure programmes most effective at achieving these improvements? 4) Do the after-school activities help to reduce the educational inequalities that affect pupils most at risk? 5) In terms of public intervention, is it recommendable to increase the investment in these types of programmes in Catalonia? Under which parameters?

Reviewing the evidence

Reviews and studies considered

Due to the diverse range of after-school programmes and the multitude of organisations running them, many of which are unconnected to the public administrations, there is not enough statistical data available to accurately profile the state of educational leisure in Catalonia, let alone its impacts and results. For this reason the

present study is based upon evaluations and reviews conducted in other settings. Principally, although not exclusively, these are studies from Great Britain and the United States on out-of-school programmes and extra-curricular activities.

The review is fundamentally made up of 12 meta-analyses (Table 2), five of which are evaluations of specific artistic and/or sports programmes, and six that focus on academic learning activities (mainly aimed at improving mathematics and reading). The meta-analyses by Shulruf [5] and Lewis [6] are particularly relevant as they include both types of activity, allowing for comparisons between their impacts.

Regarding the socioeconomic or school profile of the pupils evaluated, four out of the twelve studies focused on pupils who were disadvantaged either academically or socially. Furthermore, in two of the studies (Conard [7] and Newmand et al [8]) the pupils at risk were analysed in comparison with the rest of the pupils. As regards the stages of education, with very few exceptions the studies include non-formal education activities from preschool age up to secondary education, with measurements of the impacts for each age bracket.

As can be seen further on, other characteristics that set programmes apart from one another included their objectives (academic competence and/or other social skills), the duration in weeks and the intensity of the activities (hours per week) and the type of person running the activity (teacher, artist, volunteer, etc.).

Table 2.
Meta-analysis and systematic reviews considered

References	Type of program	Student profile	Skills considered	Effect size
Conard (1992) [7]	Arts	Preschool, primary school and secondary school Normal pupils and low performing	Reading	0.48
			Mathematics	0.29
			Writing	0.77
Lee et al (2014) [17]	Arts	Preschool, primary school and secondary school	Average performing	0.43
			Sciences	1.52
			Artistic language	0.44
			Reading	0.54
			Mathematics	0.59
			Social skills	0.2
Lewis (2004) [6]	Arts	Primary and secondary school	Academic performance	0.2
			Attitude towards learning	0.22
			Risk-taking behaviour	0.19
			Identity	-0.04
Newman et al (2010) [8]	Arts	Preschool, primary school and secondary school Normal pupils and low performing	Sciences (secondary school)	0.06
			Language (secondary school)	0.05
			Mathematics (secondary school)	0.03
			Average performing (primary school)	0.45
			Social skills	0.28-0.37
Shulruf (2010) [5]	Arts	Secondary school	Average performing	0.17
			Mathematics	0.05
			Reading/language	0.05
			Permanence in the education system	0,02
Winner & Cooper (2000) [11]	Arts	Preschool, primary school and secondary school	Average performing	0.1
			Language	0.39
			Mathematics	0.22
Lewis (2004) [6]	Academic learning	Primary and secondary school	Academic performance	0.47
			Attitudes towards learning	0.33
			Risk-taking behaviour	0.29
			Identity	0.23
Shulruf (2010) [5]	Academic learning	Secondary school	Average performing	0.17
			Mathematics	0.38
			Reading/language	0.3
			Sciences	0.27
			Attitudes towards learning	0.2
			Expectations	0.48

References	Type of program	Student profile	Skills considered	Effect size
Crawford (2011) [15]	Academic learning	Primary and secondary school	Average performing	0.4
			Reading	0.38
			Mathematics	0.42
Durlak & Weissberg (2007) [10]	Academic learning		Academic performance	0.11-0.16
			Attitude towards learning	0.14-0.34
			Behaviour	0.11-0.18
Kidron & Lindsay (2014) [13]	Academic learning	Primary and secondary school Normal pupils and low performing Pupils with limited resources	Literacy	-0.04
			Mathematics	0.03
			Motivation	0.04
			Social skills	0.03
Lauer et al (2006) [14]	Academic learning	Preschool, primary school and Secondary school Low performing pupils Pupils with limited resources	Reading	0.07
			Mathematics	0.16
Scott-Little et al (2002) [16]	Academic learning	Pupils with limited resources Ethnic minorities	Reading	0.21
			Mathematics	0.16
Zief et al (2006) [12]	Academic learning	Low performing pupils Pupils with limited resources	Average performing	0.08
			Reading	0.03
Lewis (2004) [6]	Sports	Primary and secondary school	Academic performance	0.1
			Attitudes towards learning	0.14
			Risk-taking behaviour	0.16
			Identity	0.15
Newman et al (2010) [8]	Sports	Preschool, primary school and secondary school Normal pupils and low performing	Average performing	0.19
			Mathematics (low performing pupils)	0.8
			Social skills	0.33
Shulruf (2010) [5]	Sports	Secondary school	Average performing	0.15
			Mathematics	0.08
			Reading/language	-0.01
			Permanence in the education system	0.31
			Expectations	0.16

Source: adaptation based on material from the Education Endowment Foundation. The effect value is a standardised value, as per Cohen's estimator. This makes it possible for impact measurements of different programmes to be compared. Based on Cohen's indications, the following is usually understood: values in the region of or lower than 0.2 indicate a small effect; values in the region of 0.5 indicate a medium effect; and values in the region of or higher than 0.8 indicate a large effect [9].

Can after-school activities improve students' educational outcomes?

Educational leisure programmes (both those based on academic learning and those based on specific artistic or sports themes) do appear to have an effect on the learning processes of pupils. In the case of academic learning programmes, the synthesis of evidence from the Education Endowment Foundation indicates that participating in certain after-school activities equates to a gain of two months on pupils' average academic progress over a school year, and two and a half months in the cases of the pupils most at risk. Moreover, the studies reviewed showed that participation in after-school activities produces an increase – albeit modest – in psychosocial skills (self-esteem, identity, etc.) and reduces risk-taking behaviour (consuming drugs and/or alcohol, etc.).

As for the impact of artistic and sports programmes on academic performance (language, mathematics and sciences), this is also positive, although slightly less pronounced. The gain for these programmes was calculated as less than one month on the average academic progress for pupils in a school year. In contrast, a greater impact was observed on attitudes towards learning and access routes for second opportunities (artistic programmes) and on social skills (sports programmes).

Despite the fact that the effects of after-school activities on academic performance and other psychosocial skills tend to be modest, it is worth highlighting that their impacts are comparable (or greater) than those achieved by other interventions for young people (for example actions to prevent disruptive behaviour in schools or drug prevention programmes) [10]. This makes educational leisure a field that is of particular interest for public intervention.

Participating in certain after-school activities equates to a gain of two months on pupils' average academic progress over a school year, and two and a half months in the cases of the pupils most at risk.

However, beyond this general trend, it is shown that the effectiveness of after-school activities is variable, and therefore success is not guaranteed. Whether these activities are more or less successful will depend on their context, their characteristics, and the profiles of the children and youngsters targeted.

What skills might the after-school activities improve?

There are six competency areas where the studies reviewed observed an impact from participation in after-school activities:

- **School performance**: whether the calculations are based on average marks [6] [5] [11] or on tests and exams [10] [12], numerous studies have shown an improvement in the academic results of pupils who take part in after-school activities. Attending programmes based on sports or academic learning appear to be connected with a reduction in school drop-out [5] (an effect not observed in the case of artistic activities), and pupils participating in academic learning programmes were shown to dedicate greater efforts to doing their homework [12]. There is less clear agreement identifying the educational stage at which this improvement is most noticeable. Some studies observed the highest gains during the primary school stage [13] [14], others the

secondary school stage [4], while in some meta-analyses it did not appear as a relevant factor [15].

An impact on reading and mathematics was observed in the case of arts and sports programmes, although to a lesser degree than in academic learning activities.

- **Reading and mathematics**: of the generic after-school activities evaluated which included in their objectives improvements in reading and mathematics competencies, a large proportion of them showed a positive impact in these areas [14] [15]. Other less explicitly academic learning programmes also provided similar evidence [5] [16]. An impact on reading and mathematics was also observed in the case of artistic [7] [17] and sports [5] programmes, although to a lesser degree than in academic learning activities. It is worth mentioning that some meta-analyses also noted improvements in other areas of the curriculum, such as sciences and language [5] [8] [17].

- **Attitudes towards learning**: programmes based on academic learning and those based on arts or sports themes all appear to encourage attitudes that are more positive towards school [17], a greater connection with the school as an institution [10] and higher academic motivation [13]. Other research projects have observed a reduction in school absenteeism among the participants [16].

- **Increase in expectations of education**: although this was an impact measured by only a limited number of studies, cases where it was analysed showed increased expectations of post-compulsory education among pupils who had attended after-school activities [5] [12].

A significant effect was observed in socio-emotional areas among the participants of artistic, sports and academic learning programmes, although in general, this impact was lower in the case of cognitive competencies.

- **Psycho-emotional competencies**: a significant effect was observed in socio-emotional areas among the participants of arts, sports and academic learning programmes, although in general, this impact was lower in the case of cognitive competencies. Gains were observed in terms of improved self-awareness [10], reduced negative behaviour [10] [16], increased self-security and self-esteem [6], and reduced drug-taking [6] [10] and other risk-taking behaviour [10]. Nevertheless, a closer look also shows that boys obtain fewer socio-emotional benefits than girls from artistic programmes, a circumstance that may be related to certain artistic activities being associated with feminine roles [6].

- **Social competencies**: a large number of the studies reviewed covered programmes that combined academic objectives with an intention to work on social competencies (communication skills, creativity, etc.). The results, although modest, indicate that participation does have an impact on these competencies, especially in the case of artistic programmes [8] [11] (see box 1). In the case of programmes aimed at pupils who were at risk, an increase has also been detected in participation in other after-school activities following their initial attendance at these remedial programmes [12].

Box 1.
Drama education (Hong Kong)

Hui and Lau [18] undertook an experimental study to evaluate the effect of drama education on creativity and expressive abilities. Seventeen Hong Kong primary schools participated in the study, with 195 pupils randomly assigned into either a treatment group or a control group. The treatment group participated in a drama workshop led by professional artists once a week for sixteen weeks, following the official curriculum of the Curriculum Development Council. The control group took part in after-school play-based activities with no connection to drama once a week. Data was then collected on both groups' creativity and communication, based on tests conducted before and after the treatment.

The effects were both positive and significant. The pupils who had participated in the artistic activities made greater progress in creative areas than those assigned to the control group. Positive effects on their communicative abilities and creative thinking were also observed. Furthermore, the type of progress made by the different age groups evaluated was detected: the youngest pupils showed greater fluency in creative narration than the control group, while in older pupils the differences were observed in their creative drawing.

For further information:

Hui, A., Lau, S. (2006). "Drama education: a touch of the creative mind and communicative-expressive ability of elementary school children in Hong Kong". *Thinking Skills and Creativity* 1(1): 34–40, [18]

Newman, M., Bird, K., Tripney, J., Kalra, N., Kwan, I., Bangpan, M., Vigurs C. (2010). "Understanding the Impact of Engagement in Culture and Sport: A Systematic Review of the Learning Impacts for Young People". Research Evidence in Education Library. London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London. http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3358 [8]

http://www.artsedsearch.org/summaries/drama-education-a-touch-of-the-creative-mind-and-communicative-expressive-ability-of-elementary-school-children-in-hong-kong [19]

To summarise, the review of the evidence points to the fact that pupils who take part in after-school activities improve their school results (especially in mathematics and reading), show a greater predisposition towards learning, and increase their expectations of education when compared with those who do not take part. There is also evidence of the impact of educational leisure on psycho-emotional and social competencies.

What characteristics do effective leisure activities have in common?

The third question proposed was aimed at identifying what set the most effective leisure programmes apart from the rest. The studies reviewed indicated some elements that showed a greater effect on the competencies commented on previously:

- **Programmes focusing on academic learning**: the studies that researched all three types of after-school activity programmes (arts, sports and academic learning) all concurred that academic learning programmes have a greater effect on school performance when compared with arts or sports activities [6]. However, sports activities appear to reduce school drop-out [5], while artistic activities show

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a significant effect on social skills and attitudes [6]. In the same vein, a number of studies have highlighted the importance of variety in the programming of activities as a factor that motivates attendance, and as a result, the success of the programme. This is especially true in secondary education, where pupils' regular attendance has been seen to be a major problem area [14].

- **Academic learning as an objective**: it is important that after-school activity programmes set clear learning objectives [10], especially in terms of academic content [14].

Academic learning programmes tend to have a greater effect on school performance than arts or sports activities.

Furthermore, when these academic objectives are supplemented by others of a social or psycho-emotional nature, it appears to increase the impact on some competencies such as mathematics, although no differences were observed in the case of reading [14]. As regards social skills, particularly those relating to sociability, a need was highlighted for programmes to clearly state that working on certain social skills is an objective. When situations arise in which youngsters have to coexist spontaneously, without them having worked on the values of relationships and social harmony, there is a risk of negative effects [12].

- **Links with the school curriculum**: the planning of educational activities that are connected to the school curriculum notably increases programmes' impact on academic performances [8] [10] [14] when compared with other programmes not explicitly linked to the school's contents.

- **Methodology**: a greater impact tends to be observed in programmes with methodologies that are more innovative and experience-based, and less traditional. This is especially the case for emotional and social skills, but also true for academic performance [10] [13]. On a separate point, it has been calculated that implementing evidence-based learning methodologies doubles the impact on all of the outcomes measured [10]. In addition, the existence of explicit support methods for academic learning (tutorials, homework, etc.) has been identified as a success factor.

- **Size of the group**: not many studies have focused on the importance of this variable. Those which have tend to identify one-to-one classes as having the greatest effect on academic performance, especially for mathematics and reading. Among the other possibilities, programmes that combined various groupings (different group sizes depending on the moment) were profiled as having a greater impact, above those that had fixed groups of one size or another [14].

- **Duration / intensity**: the studies consulted show first of all that greater exposure to after-school activities leads to a greater impact. Pupils that take part in activities of a longer duration show more pronounced improvements in their learning than those that attend shorter-lasting activities [14]. Moreover, there appears to be agreement on the need for a minimum number of sessions in order that effects on school performance and other competencies be observed. When this minimum is not met, results are reduced or insignificant. This is true for artistic and sports activities [17] and for those focused on reading and mathematics [14], although the minimum number of sessions does vary according to the different programmes analysed. At the other end of the scale, the review of the evidence points to the existence of a maximum number of sessions, above which the effectiveness of after-school programmes decreases [12] [14]. In this regard,

it seems that programmes with fewer than 45 hours are not long enough to produce effects. However, planning an overly long programme (for example, more than 100 hours in the case of reading or more than 200 hours in the case of mathematics) may be counter-productive.

Programmes with fewer than 45 hours are not long enough to produce effects, while overly long programmes (for example, more than 100 hours in the case of reading or more than 200 hours in the case of mathematics) often lose effectiveness.

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Some studies have focused on the relationship between duration and attendance [10]. It may be the case that the longer programmes were less intensive or that the regularity of pupils' attendance dropped off. Taking into account the positive relationship between attendance and effects, pupils' lapses in attendance on longer programmes may explain their lower degree of effectiveness [12] [14].

- **Profile of those running the activities**: general agreement is observed in recognising the person responsible for running the activity as having a differential effect on the programme. In both artistic [17] and academic learning [13] programmes, the impact on school performance is greater when a professional teacher is in charge of the activity. In turn, when it is an artist or a volunteer running the activity, the effectiveness on school results is lower. In the latter case, a differentiation must be made between volunteers who have received training to run the activities and those who have not, with a greater impact observed when it is the former [14]. In general therefore, a workforce that is better prepared leads to greater effectiveness [10]. A detail worth mentioning is that better results appear to be obtained in terms of attitudes towards the school when the people running the activities are external to the school (for example artists) [17].

Which students have more to gain from after-school activities?

Effects on not only academic performance but also social skills and psycho-emotional competencies are observed across all pupils. However, they are **especially noticeable among low-attaining pupils and those with a low socio-economic profile**. This is true for artistic, sports and academic learning programmes [7] [13]. For example, this is the case in the Playing for Success (UK) and Sacramento Start (USA) programmes, which combined academic and leisure activities, demonstrating effectiveness among the pupils most at risk academically (see boxes 2 and 3).

In the same vein, academic learning programmes are able to produce a greater impact (on both mathematics [10] and language [11]) among pupils whose performance is below average.

Box 2.
Playing for Success (UK)

This programme of the British Department of Education was initiated in 1997 with collaboration from the Premier League, its member clubs and local education authorities. It continued to grow, with participation from other sports such as cricket and rugby. Its objectives were to increase the emotional wellbeing of youngsters and children, and to improve their relationship with school and their motivation towards learning, particularly in urban areas. It began with three pilot centres in 1997 and continued expanding to reach 159 centres in 2008. Its target was low attaining pupils between 11 and 14 years old. The centres were led by experienced teaching staff, and sports activities were combined with new technologies, mathematics and reading. Each pupil participated in the activity for a total of 20 hours spread across ten weeks in out of school hours.

Longitudinal studies (Sharp *et al* [20]) (later incorporated into a meta-analysis study) [8] underlined the importance of structure and design in sports activities, as well as that of links to the curriculum, in order that the sport work as a magnet for attracting other learning activities.

For further information:

Sharp, C., Blackmore, J., Kendall, L., Greene, K., Keys, W., Macauley, A., Schagen, I., Yeshanew, T. (2003a) *Playing for Success: an evaluation of the fourth year.* Nottingham: Department for Education and Skills. [20]

Newman, M., Bird, K., Tripney, J., Kalra, N., Kwan, I., Bangpan, M., Vigurs C (2010). "Understanding the Impact of Engagement in Culture and Sport: A Systematic Review of the Learning Impacts for Young People". *Research Evidence in Education Library.* London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London. http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3358 [8]

Box 3.
Sacramento START (USA)

Having begun in 1996, this is now one of the main out-of-school-time activity programmes in the urban area of Sacramento. More than 94,000 children and youngsters have taken part in the programme and there are currently around 4,000 participants in its different districts and schools. The programme offers a broad range of academic and sports activities, as well as activities based on leisure and food.

The objectives of the programme include not only improving participants' learning, but also developing socio-emotional skills (confidence, expectations, relationship with school, etc.). All of this is achieved through tutoring, support with homework, education and leisure. The programme is aimed especially at pupils with needs that may be academic, social, emotional, or to do with development or leisure in the preschool and primary school stages. The programme requires a minimum attendance of three hours a day and five days a week during term time. The programme guarantees links with the school curriculum through the creation of committees including parties from both START and the schools.

The START programme has undergone annual evaluations. Since its first evaluation by Lamare [21] through to its most recent reports [22], it has been possible to document significant impacts the programme has made in mathematics and reading, as well as in other social and socio-emotional outcomes such as self-esteem and attitudes towards learning. These impacts can be seen as particularly significant among pupils that initially had low levels of attainment at school.

For further information:

Scott-Little, C., Hamann, M.S., Jurs, S.G (2002). "Evaluations of After-School Programs: A Meta-evaluation of Methodologies and Narrative Synthesis of Findings". *American Journal of Evaluation*, Vol. 23, No. 4, 2002, pp. 387–419 [16].

On a separate note, after-school activities improve the school results of pupils who take part in them in **primary and/or secondary education** [5] [13] [15]. Nevertheless, some studies identify different levels of impact depending on the stage of education. A greater effect is observed on school performance during preschool and primary education, in both artistic [7] [17] and academic learning programmes [8] [13]; in secondary education meanwhile, greater effects are observed on social skills and on attitudes towards learning [8] [13] [17]. This supports the idea that interventions on school performance produce greater effects when they are preventive, taking place at younger ages, although the results do not cast doubt on improvements at later stages. In fact, some evaluations have documented after-school activities leading to significant impacts on the performance of secondary school pupils, particularly in mathematics [14].

The impacts of after-school activities are especially noticeable among low-attaining pupils and those with a low socio-economic profile. Interventions on school performance are particularly effective among primary school pupils.

Summary

Out of the wider range of out-of-school-time activities, this review has only studied those that are explicitly pointed towards learning outcomes. The review of the evidence has highlighted moderate yet significant impacts from these activities, both on pupils' academic performance and on their psycho-emotional and social skills. The studies consulted attribute academic learning programmes with a greater impact on school results, while artistic and sports activities give positive results in terms of an increase in psychosocial competencies. This same difference in outcomes is observed in relation to the stages of education, with participation in after-school activities during primary education appearing to have a clearer influence on academic performance, and during secondary education a greater impact on matters relating to psychosocial skills.

As regards programmes' success factors, they would appear to include: 1) having a clear link between the activity and the school curriculum; 2) being run by a professional teacher; 3) planning for a balanced duration (not too short or too long);

4) achieving regular attendance; 5) implementing experience-based and/or evidence-based methodologies; 6) combining academic and play-based content; 7) doing them either individually or with varying strategies for the forming of groups.

Table 3.
Arguments for and against after-school activity programmes

For	Against
Academic learning programmes can have positive impacts on school performance	Artistic and sports programmes show less impact on school performance
Artistic and sports programmes improve psycho-emotional and social skills	Programmes that do not include psycho-emotional and/or social skills as objectives may lead to unwanted group dynamics
Combining play-based activities with instructional activities improves school results	Programmes based around play without explicit educational content do not appear to impact school performance
Links between after-school programmes and the curriculum and the existence of educational objectives increase programmes' effectiveness	The effects of programmes without links to the curriculum and of those that do not include objectives to improve curricular results are less clear
Activities run by a qualified teacher demonstrate clearer results	Activities run by volunteers are less effective, although the training of volunteers can improve results
Activities run in the primary school stage have a greater impact on school performance	Activities run in the secondary school stage have less of an effect on school results
Programmes have a greater effect when their duration is neither too short nor too long	Overly short programmes do not make an impact, while overly long programmes make attendance less regular and reduce effectiveness
Individual activities and those that combine different groupings are more effective	Activities with a fixed group size (big or small) have less impact
Activities with innovative and evidence-based methodologies increase effectiveness	Activities with more traditional methodologies appear to be less effective
Low-attaining pupils and those who are socially at risk are more susceptible to improvements from their participation in after-school activities	Regular pupils also show increases in their school performance, although it is less pronounced

Implications for practise

As recounted by the Catalan ombudsman's report on educational leisure in Catalonia [3], according to the survey on heath in Catalonia around 600,000 children and youngsters from 3 to 14 years old take part in leisure activities. Breaking down the data in terms of the focus of these activities, 64% of children and youngsters under 15 years old do some kind of sports activity, but the figure goes down to 39% for non-sports activities (music, dance, languages, remedial activities, etc.). Moreover, focusing attention on the participation of children and youngsters who are at risk, the numbers are considerably lower. All in all, this indicates firstly that those who participate most are those with least educational needs, and on whom – according to the evidence reviewed – the impact of after-school activities is lowest. And secondly it indicates that the most popular after-school activities (sports activities) are those that have least effect on school results.

The evidence tells us first of all that children's and youngsters' participation in after-school activities has a positive impact, albeit one that is not under any

circumstances guaranteed. So what are the implications of these results on political practice? Principally the results shed light on the basic conditions needed for the programmes that have shown the greatest impact on the learning of children and youngsters to work. They can therefore provide guidance on the type of educational leisure those in charge of policy should be supporting as an instrument for success in schools and the reduction of educational inequalities:

- **Support must be given to develop educational activities that are attractive for children and youngsters and have a balanced combination of remedial work and play activities.** Activities that are purely academic appear to result in lower participation rates and, above all, lower attendance than programmes that involve leisure activities. At the same time, it is necessary to ensure that programmes taking place outside of school hours set explicitly clear objectives in terms of improving school performance and/or the development of social and emotional skills, thus guiding youngsters' participation. And it is important to note that after-school activities have demonstrated a significant effect not only on academic performance, but also on a range of social and emotional skills when these competencies have been explicitly targeted.

- **It would be beneficial to increase participation opportunities for pupils who are socially at risk.** Access barriers – which are principally financial, but also involve a lack of information, and of perceived value or utility – put a distance between after-school activities and the pupils who could benefit from them most. In this sense, it may be worth looking at measures that would reduce the cost of activities (waiving of costs, subsidies, transport grants, etc.) together with actions involving publicity and information aimed at the relevant groups.

- **The importance of leisure activities as a way of not only compensating for, but also preventing low academic results must be underscored.** In this regard, it is particularly important to ensure that after-school activities are offered during the primary education stage, especially for at risk pupils. As for the secondary education stage, programmes were shown to be effective above all for working on social and emotional skills. These observations suggest that it is worth planning different types of programmes for these two stages.

- **The design of after-school activities must take into account the factors for success highlighted in this review, such as:** aim for activities run by qualified teachers or volunteers with bespoke training; plan a duration that is relatively extensive but not so long that attendance is affected; provide for a combination of flexible groupings of pupils.

Support must be given to develop educational activities with a balanced combination of remedial work and play activities, promoting participation among pupils who are socially at risk.

↗

Lastly, considering the limitations international research has exposed when it comes to obtaining comparable data and measurements regarding the various aspects dealt with herein, we would like to offer a reminder of the need for circumspection when reading some of the impacts presented. At the same time, this warning motivates us to issue a challenge to work on improving evaluations of the existing educational leisure programmes in Catalonia. Indicators are required that evaluate their impact and identify factors which, right here in our close environment, boost the value of non-formal education as an instrument for improving the socio-educational success of our pupils.

Bibliography

[1] Lauer, P.A., Akiba, M., Wilkerson, S.B., Apthorp, H.S., Snow, D., & Martin-Glenn, M.L. (2004). "The effectiveness of Out-of-School-time Strategies in Assisting Low-Achieving Students in Reading and Mathematics: A Research Synthesis. McRel Documents.

[2] Departament de Salut (2014). *Enquesta de Salut de Catalunya 2013.* Barcelona: Generalitat de Catalunya.

[3] Síndic de Greuges de Catalunya (2014). *Informe sobre el dret al lleure educatiu i a les sortides i colònies escolars.* Barcelona: Síndic de Greuges de Catalunya.

[4] Birdwell, Scott & Knonckx (2015). *Learning by doing.* London: Demos.

[5] Shulruf, B. (2010). "Do extra-curricular activities in schools improve educational outcomes? A critical review and meta-analysis of the literature". *International Review of Education*, 56(5-6), 591-612. http://link.springer.com/article/10.1007%2Fs11159-010-9180-x

[6] Lewis, C.P. (2004) *The Relation between Extracurricular Activities with Academic and Social Competencies in School Age Children: A Meta-Analysis.* Doctoral dissertation, Texas A&M University College Station, TX: Texas A&M University. http://oaktrust.library.tamu.edu/bitstream/handle/1969.1/2710/etd-tamu-2004B-SPSY-lewis.pdf?sequence=1&isAllowed=y

[7] Conard, F. (1992). The arts in education and a meta-analysis. Doctoral disseration, Purdue University West Lafayette, IN http://docs.lib.purdue.edu/dissertations/AAI9229100/

[8] Newman M., Bird K., Tripney J., Kalra N., Kwan I., Bangpan M., & Vigurs C (2010). *Understanding the Impact of Engagement in Culture and Sport: A Systematic Review of the Learning Impacts for Young People. Research Evidence in Education Library.* London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London. http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3358

[9] Cohen, J. (1988). *Statistical power analysis for the behavioral sciences.* London: Academic press.

[10] Durlak J.A., Weissberg, R.P. (2007). *The Impact of After-School Programs that Promote Personal and Social Skills.* Chicago: Collaborative for Academic, Social, and Emotional Learning (CASEL).

[11] Winner, E., Cooper, M. (2000). "Mute Those Claims: No Evidence (Yet) for a Causal Link between Arts Study and Academic Achievement". *Journal of Aesthetic Education*, 34(3/4), 11. http://www.jstor.org/stable/3333637

[12] Zief, G.H., Lauver, S., Maynard, R.A (2006). "Impacts of after-school programs on student outcomes". A systematic review for the Campbell Collaboration. Campbell Collaboration.

[13] Kidron, Y., Lindsay, J. (2014). *The effects of increased learning time on student academic and nonacademic outcomes: Findings from a meta-analytic review* (ED-IES-12-C-0005:REL 2014–015). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center or Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://ies.ed.gov/ncee/edlabs

[14] Lauer, P.A., Akiba, M., Wilkerson, S.B., Apthorp, H.S., Snow, D., & Martin-Glenn, M.L. (2006). Out-of-School Time Programs: A Meta-Analysis of Effects for at-risk Students. *Review of Educational Research*, 76, 275-313. http://rer.sagepub.com/content/76/2/275.citation

[15] Crawford (2011). *Meta-Analysis of the Impact of After-School Programs on Students Reading and Mathematics Performance.* Denton, Texas. UNT Digital Library.

[16] Scott-Little, C., Hamann, M.S., Jurs, S.G (2002). "Evaluations of After-School Programs: A Meta-evaluation of Methodologies and Narrative Synthesis of Findings". *American Journal of Evaluation*, Vol. 23, No. 4, 2002, pp. 387–419

[17] Lee, B. K., Patall, E. A., Cawthon, S. W., Steingut, R. R. (2014). "The Effect of Drama-Based Pedagogy on PreK–16 Outcomes A Meta-Analysis of Research From 1985 to 2012". *Review of Educational Research* 85 (1) 3-49 http://rer.sagepub.com/content/85/1/3

[18] Hui, A., Lau, S. (2006). "Drama education: a touch of the creative mind and communicative-expressive ability of elementary school children in Hong Kong". *Thinking Skills and Creativity* 1(1): 34–40,

[19] http://www.artsedsearch.org/summaries/drama-education-a-touch-of-the-creative-mind-and-communicative-expressive-ability-of-elementary-school-children-in-hong-kong#sthash.hjqfifBu.dpuf

[20] Sharp, C.; Blackmore, J., Kendall, L., Greene, K., Keys, W., Macauley, A., Schagen, I., Yeshanew, T. (2003a) *Playing for Success: an evaluation of the fourth year.* Nottingham: Department for Education and Skills.

[21] Lamare, J. (1997). *Sacramento START: An evaluation report.* Sacramento, CA: Sacramento California Neighborhoods Planning and Development Services Department.

[22] City of Sacramento (2004). *Sacramento START Program Evaluation for Fiscal Year 2003.*

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