



HAL
open science

Internats d'excellence: lessons from Sourdun

Luc Behaghel, Clément de Chaisemartin, Axelle Charpentier, Marc Gurgand

► **To cite this version:**

Luc Behaghel, Clément de Chaisemartin, Axelle Charpentier, Marc Gurgand. Internats d'excellence: lessons from Sourdun. [0] Feedback n°1, Institut des politiques publiques (IPP); Abdul Latif Jameel Poverty Action Lab - Europe (JPAL-Europe). 2013. halshs-02512791

HAL Id: halshs-02512791

<https://shs.hal.science/halshs-02512791v1>

Submitted on 21 Mar 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

INTERNATS D'EXCELLENCE : LESSONS FROM SOURDUN

Feedback

n°1

April 2013

Luc Behaghel
Clément de Chaisemartin
Axelle Charpentier
Marc Gurgand



The Sourdun *Internat d'excellence* (Boarding for Excellence) programme opened its doors at the beginning of the 2009 school year. The 258 first boarders were drawn by lot from 395 eligible applicants. Over two years, we followed the interns and the 137 unsuccessful applicants. The latter constitute our "control" group. The draw guarantees that the two groups are initially identical, which allows us to isolate effects of Sourdun reliably, by comparing the interns with the control group students.

Selected first for their motivation, the Sourdun students are of modest backgrounds and modest academic achievements. The boarding programme demanded some time for adaptation, so much so that little effect was seen in the first year. It was at the end of two years that a significant improvement in results in mathematics appeared among the Sourdun students compared with the others, along with increased academic ambition and a stronger desire to learn. In French, however, the interns did not have higher marks than the control group students. Several studies of other education policies have also found positive effects on results in maths but not in languages: the strengthening of verbal skills is perhaps to be conceived over the long term.

A number of factors explain the impressive impact of the Sourdun programme. Two of them are likely to be connected: the enabling environment (low absenteeism, fewer acts of violence within the school) and the high investment by teachers and students in their own work, the study programme and the individual support available.

By its nature, Sourdun remains an exception. But its effectiveness is a solid invitation to experiment with other measures to fight on a larger scale against academic inequalities. ■

- Bringing together motivated middle school-level students, Sourdun clearly increases maths skills and boarders' academic ambitions, but only after two years.
- Its cost effectiveness is equal to reducing class sizes by half.
- The work environment provided for the students seems essential: coaching, individual support, improvement of relations between the pupils and the teachers.
- We cannot say whether the boarding programme would have the same effects on weaker or less motivated students, which leaves open the question of academic policies aimed at a wider target.

J-PAL, poverty action lab, is a network of academics around the world who use the random assignment evaluation method. J-PAL's objective is to reduce poverty by ensuring that public policy is grounded on scientific evidence.

www.povertyactionlab.org

The Institute for Public Policy (IPP) was developed through a scientific partnership between the Paris School of Economics and the Centre for Research in Economics and Statistics. The aim of the IPP is to promote quantitative analysis and evaluation of public policy using cutting-edge research methods in economics.

www.ipp.eu

The *Internats d'excellence* (Boarding for Excellence) programme constitutes an important innovation in school education policy. It aims to promote success among students who are the most motivated but whose social or family environment does not favour the development of their potential. The boarding system should allow these students to work in good conditions and benefit from appropriate supervision throughout the day. It is an intensive and proactive form of priority education policy.

The **Sourdun boarding school programme** was the first to open its doors, at the beginning of the 2009 school year. It was followed by 44 others, and in September 2012, there were 4,173 places available in Boarding for Excellence programmes. The budgetary commitments required for this programme, concentrated on a relatively small number of students, justify the efforts to evaluate it.

An assessment based on the student draw for the boarding programme

We present here the results of a controlled experiment measuring the effects on schooling of the Sourdun boarding for excellence programme. The evaluation is based on the lottery of **258 pupils accepted into the boarding programme in 2009 and 2010**, from among 395 applicants whose records were deemed by a selection committee to meet the desired profile. The other 137 candidates were unsuccessful; they made up our "control" group. We studied these two groups of students, as well as their families, during the two years of their candidature. The situation of the control students one and two years after the draw constitutes the points of comparison by which we can measure the Sourdun effect on the boarders. Indeed, the draw guarantees that the two groups were initially identical and the control group students' trajectories are representative of those that the boarding students would have followed if they had not been admitted into the Sourdun programme.

« The draw guarantees that the two groups were initially identical and the control group students' trajectories are representative of those that the boarding students would have followed if they had not been admitted into the Sourdun programme »

The Sourdun boarding school is situated near Provins, in the Seine-et-Marne



Students from a modest background with middling academic skills

The students are welcomed to the Sourdun boarding school at the end of a double selection process – application by the families – at their own initiative or that of the student's school – then validation by a selection committee. A little fewer than half of them are scholarship students, which is about double the national average. One third of them belong to single-parent families and more than half speak a language other than French at home. Their parents are more likely to be unemployed than those of other students in the Créteil school district.

In terms of academic level, they are quite good students compared with their former classmates, but **only middling compared with the national average**. In their classes of origin, they are typically situated seventh or eighth of 25 pupils, in French and mathematics.

Those who sit their *brevet* (GCE equiv.) before going to Sourdun almost never fail it (while the national failure rate is 20 per cent) and their marks situate them around 45th place in 100 at the national level. It is therefore important to keep in mind that **the measure whose impact we are assessing addresses the type of student** who, far from being the excellent students that some boarders were expecting, are not the weakest students either.

At the end of two years, the positive effects on maths skills are clear

We first quantified the impact of the boarding programme on the students' skills in French and mathematics, measured by standardised tests conceived by the *Direction de l'évaluation, de la prospective et de la performance* (Board of Evaluation, Prospective and Performance) of the National Education Ministry, and given under the same conditions to all the students in the sample. While at the end of the first year, we saw no difference between the two groups of students, at the end of the second year, the boarding students obtained significantly higher results in the maths test than the control group students. The difference was around 41 per cent of a standard deviation of the score, which indicates that on average, thanks to the Sourdun programme, a student initially classed at 45th place out of 100 moved up to 30th place. In studies of the effects of education policies, an impact of this order is considered very high; **few interventions result in this kind of progress**.

« [...] on average, thanks to the Sourdun programme, a student initially classed at 45th place out of 100 moved up to 30th place »

These results show first of all that Sourdun has an effect on student skills at the end of two years. It seems that the pupils first go through a phase of discouragement when they arrive at the boarding school: their confidence in their capacities diminishes during the first year, before returning and then growing. This process is also described in monographs written about other *internats d'excellence* programmes.

On the other hand, **the lack of effect on skills in French might be surprising**. We should first point out that this result could be linked to the limited size of our sample, which does not allow us to detect small differences between the two groups. If there were an impact on French but only a weak one, then it cannot become apparent with the sample of fewer than 400 that was available to us. We also stress that it is not rare, when rigorous assessments are made of such education strategies, to find strong effects in maths and much weaker or insignificant effects in languages. It is a tendency that we find, for example, in assessments of US charter schools, the closest policy approach to the boarding programme evaluated in the international literature. It seems, then, that it is more difficult to accelerate learning in languages than in mathematics, especially among adolescents. Indeed, some work in developmental psychology shows that verbal aptitudes in children are fixed earlier in life than their numerical and mathematical aptitudes.

According to our calculations, the cost per student of the Sourdun programme is about twice as high as it is in those schools where the control group students are educated, a difference that is mostly explained by the boarding costs. We can compare, therefore, the impact of the Sourdun programme with that we would obtain if we halved class sizes, because that would also lead to the doubling of costs per student. Available studies show that this policy would have an effect on academic results similar to that of the Sourdun programme. If we stick to the impact it has on student's cognitive skills, then **the cost-effectiveness of the Boarding for excellence programme is comparable to that reducing class sizes by half**. Unfortunately, in the absence of rigorous studies measuring the effects of other interventions (such as policies targeting young children), we cannot compare their effects with those of the Sourdun programme.

The Sourdun boarding scheme also has a strong impact on students' ambitions... and those of their parents

The boarding programme also has an impact on some non-cognitive dimensions, which numerous studies show that can have significant effects on a child's schooling and social inclusion.

So, we measured students' academic ambitions and the ambitions their parents have for them. It came out that two years after the draw, the boarders are almost three times as likely than the control group to say that they would like to join a *classe préparatoire* [two-year programme in which students prepare to sit the entrance exams for the *grandes écoles*]. They are also 25 per cent more likely to want to study for a Masters degree. We find the same effect on their parents, though their ambitions for their other children, who are not participating in the boarding programme, do not increase.

We also propose to students some tests to measure their motivation regarding school. Among the sources of motivation identified by psychologists, we find that the **students who have been through the Sourdun boarding programme have, after two years, greater "intrinsic" motivation** than the control group students. This means that they are more interested in education for itself, rather than seeing school as a means for achieving other goals.

Sourdun provides students with a favourable work environment

In order to identify the factors that might explain the effects produced by the boarding programme, we compared the schooling of the Sourdun students with those of the control group students.

Let us note first that **course loads at Sourdun follow official recommendations**: that is, students do not benefit from more school hours of either French or maths. However, their presence in class is more regular: they are, for example, three times less likely than the control students to skip classes.

« *Class time at Sourdun seems therefore to be spent in better conditions than among the control students* »

Classes are smaller at Sourdun (19 students compared with an average of 24 for the control group). Students are three times less likely to say that their classmates do not listen to the teachers, and half as likely to state that acts of violence are frequently committed by other students within the school. Class time at Sourdun

seems therefore to be spent in better conditions than among the control students. This might be explained at least in part by the student targeting: the boarding programme departs from the usual school path, putting together young people with reasonably good academic skills who are determined to progress.

The Sourdun teachers are selected on their records, especially their involvement in the project. This procedure led to the appointment of teachers who are younger and more qualified than those who teach in the control group schools: they are on average three years younger and 28 per cent of them have higher degrees, compared with 18 per cent in the control schools. Teaching in relatively small and (academically) homogeneous classes allows them **greater scope to apply their pedagogical skills**: for example, the Sourdun students are twice as likely as the control group students to state that their teachers continue to explain things until all the pupils have understood.

The show at the end of the year at Sourdun



Finally, the boarding programme exercises a form of control over the students, which means **changes to how they use their time outside the classroom**. Every week, the Sourdun students dedicate two hours more to their homework than the control students; spend five hours more in supervised study; benefit from twice as much individual support from their teachers and spend one-third of the amount of time in front of the television. We do not see them "catching up" on the weekend, when they go home to their families. On the contrary, the habits of the week-days seem to be extended, so that the students at Sourdun also spend more time doing their homework on Saturdays than their control group counter-parts.

« [...] the habits of the week-days seem to be extended, so that the students at Sourdun also spend more time doing their homework on Saturdays than their control group counter-parts »

Our experimental measure does not allow us to say what part we can attribute to each of these different components in the total effect produced by the programme. However, it is realistic to say that **the very significant effects of the boarding programme on the use of time and the students' work environment are beneficial**. In addition, the fact of being surrounded by motivated class-mates has also probably been positive, even if the fact of no longer being among the very good students of their class was at first discouraging for some pupils. Furthermore, our experiment allows us to show that the students who stayed in the boarders' original schools were not affected by the departure of these "good elements", no doubt because so few of them left to participate in the programme.

Research that calls for more research: following the boarders over the long term

It seems crucial to extend our work by following the students over the long term, in order to identify the effects of the Sourdun experience on their higher studies and their professional integration. Such monitoring is now commonplace in international studies and it is often this strategy that gives the most probing evidence for assessing the effectiveness of a policy intervention.

However, our study concerns only the Sourdun boarding programme. **To extrapolate its results to other boarding programmes is risky** because of how widely they differ in their operations. If we want to broaden the diagnosis of this policy, we first must complete our work by complementing it with quantitative studies of other boarding for excellence programmes.

An effective policy, but how can it be applied more widely?

The results of the Sourdun boarding for excellence programme show that it is possible, using a targeted policy, to increase significantly the academic skills and education ambitions of students from modest backgrounds, flying in the face of the assumption that education policies can do nothing to challenge inequality.

« The results (...) show that it is possible, using a targeted policy, to increase significantly the academic skills and education ambitions of students from modest backgrounds »

The fact remains that this policy is also a choice: to concentrate significant resources on motivated students at the median academic level. **Our evaluation does not allow us to say that what works for those students will work as well for weaker or less motivated students**. But it does raise the question of what actions can be taken for the latter, in a context where, as various studies show, contrary to what happens at Sourdun, extra student resources dedicated to priority education are currently already limited.

References : the complete study « Les effets de l'internat d'excellence de Sourdun sur les élèves bénéficiaires : résultats d'une expérience contrôlée » is available at www.povertyactionlab.org and www.ipp.eu

This research was funded by the Fonds d'expérimentation pour la jeunesse (FEJ).

Authors :
 - Luc Behaghel : luc.behaghel@ens.fr
 - Clément de Chaisemartin : clement.dechaisemartin@ensae.fr
 - Axelle Charpentier : acharpentier@povertyactionlab.org
 - Marc Gurgand : gurgand@pse.ens.fr

The authors wish to thank all the partners that participated in this evaluation.