

## Lessons from education experiments

In the Netherlands, there has in recent years been a reversal in the way educational reforms are viewed, so that now there is an important place reserved for experimental research. The idea behind experimental research is to study its effects by comparing a group of students who have experienced such an ‘intervention’ (experimental group) with a group of students who have not (control group). In that way, one hopes to prevent drawing board-devised education innovations from turning out a failure in the classroom. See Borghans et al. (2015) for a description of this development.

Good education is becoming more and more important. But because there are fewer opportunities to provide pupils with additional and longer tuition, it is becoming increasingly urgent to use the education years of pupils effectively. Besides, the costs of education research – especially since the advent of ICT – are steadily going down. Many test results of school kids are already in the computer systems and can therefore be very easily interconnected. Thus, without much effort, one is able to observe the effects of experiments over longer periods of time. Due to this, there is an ongoing upsurge as to the value of education experiments.

Also on an international level, experimental education research has grown considerably in recent decades. In the nineties, economists in academic circles became aware that research into the effects of certain types of education was likely to seriously distort its outcomes if it was based on a comparison between people who made different choices. For example, if less bright students receive more hours of language teaching, one might get the impression – should no experiment be carried out – that additional language tuition does not lead

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to better results. To rule out such selection effects, studies were carried out using natural diversification or randomly but sharply defined policy limits in education. A classic example is the study into the effects of class size by Angrist and Lavy (1999), in which one has used the strict and unequivocal rules as regards the allowed size of classes. However, the problem with natural and quasi-experiments has been

that important educational questions remained unanswered because there was no natural experiment available. In order to answer these questions, field experiments were arranged.

From these education experiments, interesting findings emerged. First, it is very important to have good data on education. For instance, in an experiment in an elementary school you want to tell how pupils are going to do in secondary education and after. If one only monitors the pupils in the one experiment, then experimentation becomes very costly. Also, in that case there are often a considerable number of drop-outs. That is why developments making it easier to gather the data of all students in the Netherlands for research, may truly stimulate experimentation.

Second, the success of an experiment requires a good collaboration between researchers and those involved in educational practice. Ideas that look good in theory are often hard to realise in practice. It is challenging for researchers to develop creative solutions to such problems of everyday practice.

### Case 1: The Somerset Challenge

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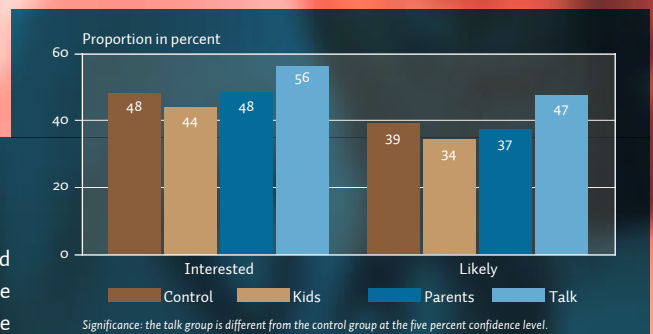
“The Somerset Challenge” comprised a suite of randomised controlled trials by the Behavioural Insights Team in the UK involving both teachers and students. One trial tested different methods to raise the aspirations of youths who opt against attending university despite having the grades to gain admission. Students were randomly allocated to a control group who did not do anything, or to one of three intervention groups. In the first group, students received information on financial support, loan repayments and future earnings. In the second group, parents were given the same information. In the third

group, students received a talk from a relatable role model –someone who had grown up in Somerset and had attended university. The results indicate that giving students a short talk from a relatable role model increases their stated interest in attending university (7.8 percentage points higher than the control group), as well as their likelihood of applying (8.4 percentage points higher).

In a separate trial, we tested the efficacy of sending different types of messages to recruit teachers to rural schools in Somerset. Teachers were randomly assigned to receive a pro-social message emphasising the social impact of teaching, or to receive a challenge

message which acknowledged that teaching can at times be difficult. We found that teachers who received the challenge message had 2.58% more click-throughs to a vacancy website than those who received the pro-social message.

The above are just two examples of how behavioural insights can aid in making current practices more effective, but the Behavioural Insights Team believes there is ample opportunity to use behavioural insights to sculpt education policy more broadly to the benefit of students, parents and teachers alike.





## Experiments and policy in the Netherlands

Hessel Oosterbeek has played a major role in raising awareness as to the importance of experimental educational research. Since 2005, the CPB Netherlands (CPB) also has laid greater emphasis on experimentation. At CPB, especially Dinand Webbink has propagated using both quasi- and natural experimental research methods. Apart from their own impact studies, the CPB is increasingly furthering what they call a 'promising education policy' (*kansrijk onderwijsbeleid*), which summarizes what Dutch and international quasi-experimental research has shown to be both effective and efficient.

Partly because of these developments also the Ministry of Education has more and more started to ponder the importance of experimentation. In 2009, the vast research programme 'EducationEvidence' (*OnderwijsBewijs*) arrived. In 2010, the Ministry initiated the project 'Insight into effectiveness' (*Zicht op effectiviteit*), while the Top Institute for Evidence Based Education Research (TIER) was set up with subsidies from the Ministry with the aim to generate evidence-based knowledge about education. In 2011, the 'Innovation Impulse Education' programme (*InnovatieImpuls Onderwijs; IIO*) set out, in 2012, the National Directive Body for Education Research (NRO) was established, and education councils agreed to give schools more freedom to decide for methods that countered bullying and were proven to be effective by experiments.

In order to advance education, the right experiments must be carried out. Now, the choice of experiments is largely determined by costs and practical feasibility. Actually, lacking here is the research as well as the research methodology that may establish what experiments might provide the information critical to improving education. With this knowledge, one would be able to make experimentation more targeted. And thus one would sooner discover how education can be improved.

### LITERATURE

Angrist, J.D. and V. Lavy (1999) Using Maimonides' rule to estimate the effect of class size on scholastic achievement. *The Quarterly Journal of Economics*, 114(2), 533-575.

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## Case 2: Attack on school dropouts

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From 2005 onwards, the government has been dealing with youngsters prematurely leaving school by way of the prevention programme 'Attack upon early school leaving' (*Aanval op de schooluitval*). Dropping out is not just a problem for young people themselves, but also has undesirable economic and social consequences for society. The programme's aim is to reduce the number of drop-outs. This has been a success: the number has gone down from almost 60.000 a year to 35.000 in 2012, and to 25.000 in 2015.

The considerable decline in the number of drop-outs is mainly due to the new approach. An important part of the latter is to make the existing data more accessible and to use it in a better way. As brief spells of absenteeism turn out to be an important predictor of eventual dropping out of school, the digital absenteeism portal that provided realtime insights

into pupils' absentee behaviour helped guide parents, schools and municipalities in directing efforts. Because of this information facility, one is able to act upon absenteeism faster, so that youngsters can be kept aboard. Furthermore, the government has closed performance contracts with schools and municipalities. As part of these contracts, schools receive additional resources if they achieve certain objectives. These performance contracts, among other things, have resulted in professionals from a region frequently meeting to tackle premature school leavings. The municipality serving as a regional contact takes on the part of 'director' here, and by way of a regional problem analysis each region decides by itself what measures it takes. The Ministry provides support in the form of account managers frequently touring the



Vocational education students receive information at the jobparty Almere On Stage. Aim of the event is to prevent early school leaving.

country to share best practices and transparent data products.

### Early school leavers

