

Towards more evidence-based education

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The education world often introduces new methods and approaches without ascertaining that the new method or approach is indeed better than the one used previously. Examples include new textbooks or slightly decreasing class sizes. On the other hand, available knowledge on, for instance, proven effective language course books, only slowly finds its way into educational practice. The knowledge that something works is not sufficient for large-scale adoption by educational institutions.

To put it briefly: we seem to be dealing with a certain 'unused space'. Insufficient efforts are made to gather evidence on the effectiveness of teaching methods and additionally, to capitalize that knowledge.

Requests for advice

That is why the Education Council, at the request of the Ministry of Education, Culture and Science, published a report on education, which is based more on proof, the so-called evidence-based (proven effective) approach.

This report focuses on two questions:

- In what respect and how can an evidence-based approach boost the effectiveness of education?
- How can we encourage the implementation of evidence-based teaching methods in educational practice?

The report addresses all the sectors of education as well as early childhood education, and focuses on teaching methods and strategies. In the opinion of the Council, a new method or approach is more effective:

- when it is manifestly advantageous to pupils and students: if they perform better in the cognitive, social or other domain; or
- when it is not manifestly disadvantageous to the performance of pupils and students (they do not perform any worse), whilst at the same time offering other benefits, such as lower costs and a decrease in workload for the teaching staff.

Re 1: arriving at proven effective education step by step

Research can yield a reliable assessment of the suitability of methods and approaches, thus preventing lengthy ideological debates and trial and error efforts. It is for good reason that the support for evidence-based working is increasing both within and outside the education system. The health care sector, for instance, has a marked tradition in this field. This primarily stems from a focus on quality improvement but also from a pursuit of efficiency. Youth care has also developed several initiatives to adopt a more evidence-based attitude in this sector. In several education systems abroad, the evidence-based approach is gaining increasing acceptance, especially in Anglo-Saxon countries. This is also connected with the increasing attention paid to quality and accountability.

A phased approach is needed to arrive at more evidence-based education. Depending on the knowledge developed in a certain field, evidence may be furnished in various stages. Within a (new) domain, gaining a picture of what works, why it works and how it works requires many years of exploratory research, development work and practical experience. Only then can hard experiments involving control groups (see box) be justified. Hard evidence can be provided in the fields of early childhood education and of language and arithmetic instruction to young children; in these domains, a substantial amount of knowledge has already been developed.

Hard and soft evidence

Evidence that something works can be established in several ways, for instance by way of experiments or by conducting a survey among teachers. The various evidence methods together constitute an ascending scale. The left-hand side contains few evidence providing elements (soft evidence); on the right-hand side, evidence providing elements accumulate (hard evidence). The most solid form of evidence, furnishing many elements, involves controlled experiments with the random allocation of test subjects to conditions. Other types of research set-ups include pilot studies, cohort studies and case studies. In addition to these types of (harder and softer) objectified knowledge, experience-based knowledge from professionals can also contribute to gaining insight into 'what works'.

Teaching methods and approaches whose effects have not (yet) been demonstrated through research must definitely not have any undesirable side effects. In health care, a similar requirement applies to therapies such as homoeopathy, whose effects cannot be demonstrated by regular research. These must, in any case, meet safety requirements before they can be marketed.

Re 2: evidence-based education requires various stimuli

Like other countries and sectors, the education sector in the Netherlands is struggling with the question as to how it can improve its practical use of the research results regarding methods that have been proven effective. Various factors inhibit the exploitation of scientific research: the view that research is threatening the autonomy of the education world, the additional implementation time required, the fact that effects are often measured on a rather narrow scale and the high costs of research. With regard to experimental research, these drawbacks apply to an even higher degree.

In order to further an evidence-based approach to education, the Council has drawn up four recommendations.

1) Entering on the agenda

A shift towards evidence-based working requires a change in culture. In order to bring about such a change, the Minister, the education organisations involved and the development, training and research agencies must place this topic on the education agenda.

2) www.onderwijskwaliteit.nl desk

Access to knowledge on the (in)effectiveness of teaching methods and approaches must be facilitated. A digital desk should be set up to provide access to research data on effective methods, for instance by way of reviews. Existing examples include the Cochrane Library (with predominantly hard research data in the field of health care), the Databank Effectieve Jeugdinterventies [Effective Youth Interventions Databank] (with hard and soft research data on youth care in the Netherlands) and the What Works Clearing House (mainly hard data on effective education in the United States). In order to realize such a desk, a joint venture could be set up comprising, for instance, NWO (Netherlands Organization for Scientific Research), NIWI (Netherlands Institute for Scientific Information Services), and VOR (Association for Educational Research). Funding might be obtained from the European Commission, in particular with regard to research that is of relevance in attaining the Lisbon ambitions.

3) Schools to make their choices clear

The additional autonomy of educational institutions has led to an increase in their own responsibility for the quality of the education they provide. This calls for additional investments in quality assurance and knowledge management. Educational institutions should use evidence-based insights to make more conscious choices for specific goals and methods of operation. Parents and students, after all, demand education of the highest quality. A possible incentive for educational institutions might be to sharpen up the existing obligation to justify choices in the school prospectus, the annual report, the policy plans and the quality assurance plans. To this end, the Inspectorate would need to intensify its supervision in this matter. Schools, however, are and will remain free in the choices they make.

4) Additional incentives

In connection with the measures stated above, additional incentives are needed to promote evidence-based working. These might include developing action guidelines and protocols, devoting attention to evidence-based approaches in teacher training, calling on university lecturers and other professional experts in the field of both research and education and creating more scope for studies into the effects of teaching strategies and the way in which these effects come about.