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## **Data-Based Decision Making in The Netherlands and England: A Comparison**

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### **Abstract**

Data-based decision making is receiving increased attention in education, not only in the USA but also in Europe. This paper describes findings from an international comparative study that examined data use by school staff in secondary education in the Netherlands and in England. Eighty-six interviews were conducted in 12 schools in the Netherlands and England. The results show that both in the Netherlands and England vast amounts of data are available, but that the strategies adopted for effective data use are limited. We will highlight the types of data available in both countries, the way these data are used, and how several factors, such as teacher collaboration and support from school leaders, can enable data use in schools.

### **Introduction**

In a context where schools are held more and more accountable for the education they provide data-based decision making has become increasingly important. From research in a few best practice schools we know that teachers can use data to improve the functioning of the school in terms of increased student achievement (Lai, McNaughton, Timperley & Hsiao, 2009; Wohlstetter, Datnow & Park, 2008). However, we also know that most teachers do not use data properly, or do not use data at all (Schildkamp & Teddlie, 2008; Schildkamp & Kuiper, 2010). For data to lead to school improvement, it is important to research for what purposes school staff use these data, and which factors influence the use of data. Therefore, we studied the following research question in English as well as Dutch schools:

1. For what purposes do school staff use data?
2. Which factors enable and/or hinder data-based decision making in schools?

### **Theoretical framework**

Based on an extensive literature study (Schildkamp & Kuiper, 2010) we found that we can distinguish between using data for improvement (e.g. conceptual and instrumental data use) and unintended data use (e.g. data use that does not lead to improvement): symbolic and political data use. With regard to using data for improvement, the following purposes for data use were found:

- Instructional purposes
- Supporting conversations
- Professional development
- Encouraging self-directed learning
- Policy development and planning
- Personnel decisions

With regard to the type of data use that does not lead to improvement we found the following possible purposes:

- Meeting accountability demands
- Legitimizing actions

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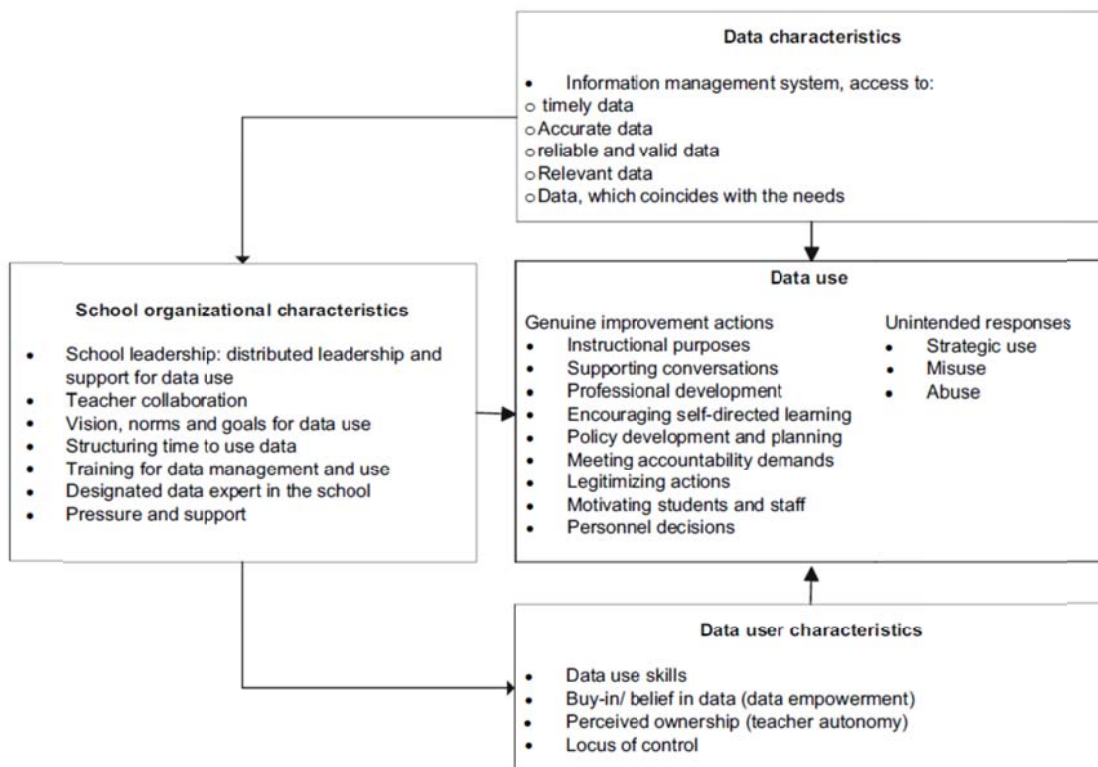


Figure 1. Factors hypothesized to influence data use (Schildkamp & Kuiper, 2010, p. 485).

Furthermore, several factors can either enable or hinder data use in school (see Figure 1, for a detailed description the reader is referred to Schildkamp & Kuiper, 2010). School organizational characteristics may influence data use. For example, in order to be able to use data it requires that school staff know what goals they are working towards. Only when there are clear and measurable goals, school staff can use data to check whether or not they are reaching their goals. Also, user characteristics can influence the use of data. Data use requires, for example, certain knowledge and skills, and also a positive attitude towards the use of data. Many teachers in schools lack the knowledge and skills (and sometimes also attitude) needed to use data effectively. Finally, the availability of data and data systems can influence data use. For example, schools staff need access to reliable, valid and timely data (Schildkamp & Kuiper, 2010).

### The Dutch context

Dutch schools traditionally have considerable autonomy. They have always been free to choose the religious, ideological and pedagogical principles on which they base their education, as well as how they choose to organize their teaching activities (Ministerie van Onderwijs, Cultuur , Wetenschappen, 1999). This freedom has led to a situation where both public and private schools are funded equally by the Government. Since the 1980s the process of further decentralizing competencies from the national level to the level of schools and municipalities has been initiated, schools have received more autonomy regarding their administration and finances; some other tasks have been decentralized to the municipalities (Hendriks, Doolaard, & Bosker, 2002).

The Netherlands do have an inspectorate, which holds schools accountable for their education. The decentralizations process in the Netherlands is rapidly proceeding towards governance in education (i.e., adjusting inspection evaluation to the principles of increased school autonomy), and schools are held accountable for their functioning in three different manners. Firstly, like in England, a vertical hierarchical external accountability function exists, in which an external organization (e.g. the Dutch

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Inspection) holds schools accountable for their functioning. Next, horizontal accountability is present, in which schools are expected to provide their community and stakeholders with insight into their processes, choices and results. Thirdly, internal vertical accountability exists, in which schools are supposed to provide their boards of supervision with insight into the adequacy of their management, policy and steering (Janssens, 2005, 2007).

The inspectorate plays an important role in the vertical hierarchical external accountability function. The main goal of the inspectorate is to assess and improve the quality of Dutch schools. Improvement is defined here in terms of added value: the extent to which schools add more value to their students' school entry performance levels (and how that compares with the average value added by schools with similar student populations, in terms of school entry level, or students' socio-economic status). The Dutch inspection supervision framework for assessing school performance includes the school's quality care system, assessment, classroom teaching (quality of teaching), pupil care and support, school climate, school results, lesson content, and teaching time. Dutch school inspectors assess the quality of schools using the school supervision framework.

Based on their assessment inspectors provide data to schools on their strengths and weaknesses including suggestions on how to improve. Schools assessed by inspectors as 'weak schools' are visited more intensively and more frequently than other schools, and inspectors draw up written agreements with these schools about the improvements required ("schools under special measures"). Schools may also be requested to describe how they will implement the school improvement action plan. These plans are monitored thereafter by the school inspector (Ehren & Visscher, 2008).

An important aspect of the Dutch Inspectorate is the so-called 'principle of proportionality'. This means that the inspection of schools starts from the results of schools' quality assurance and school self-evaluation activities (Inspectie van het Onderwijs, 2002; Ministerie van Onderwijs, Cultuur & Wetenschappen, 2000–2002; Renkema, 2002), which implies that schools have to collect data on their own functioning. This method is expected to encourage schools to develop adequate quality assurance measures and as a result, based on data, identify and correct their own weaknesses.

In the Netherlands it is difficult to sanction weaker schools. Freedom of education is highly valued in the Netherlands and implies that schools are free to determine how they will organize their education. As long as they comply with legal requirements, they cannot be sanctioned or be obliged to change (Ehren, Leeuw, & Scheerens, 2005), although a follow up visit by the inspection to weaker schools is sometimes seen as a sanction.

### **The English context**

In the late 1980's, a *National Curriculum for Schools* has been implemented for all state-funded schools in England. The various reforms introduced during the past 20 years increased the parental choice of schools, which led to more competition amongst schools. These reforms led also to, for example:

- a nationwide standardized test for teachers and school leaders,
- funding of schools based on the number of students,
- the publication of the Ofsted school inspection results of individual schools and a national ranking list of schools in School Performance Tables - better known as league tables,
- annual reports of the head teacher to the governing body related to the progress of the school and
- local management of the schools (Huber, Moorman & Pont, 2007) that is accountable to the *Department for Education* (DfE).

For the purpose of measuring school performance and school improvement the achievement of pupils is tested through standardised tests at the end of Key Stage (KS) 2, KS4 and KS5 at the age of

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11, 16 and 18. At the age of 15 to 16 (KS4) English students take their General Certificate of Secondary Education (GCSE) exams. Moreover, a range of non-GCSE examinations exist at the age of 16 in vocational subjects that are equivalent to academic GCSE's.

The accountability of schools is anchored in the policy of each nation and/or state. In the case of England, the origin of the accountability culture of schools lies in the politics and is grounded in the need for schools to be able to show the effectiveness of their teaching to the public/the tax payers (Kelly & Downey, 2011). The effectiveness of English maintained secondary schools is measured in terms of school performance indicators. These performance indicators are based on the attainment of the students. The performance of the schools is published annually in School Performance Tables, in which schools are ranked according to their performance. These tables are better known as 'league tables' (Kelly & Downey, 2011). Kelly and Downey (2011) report that in the early years, league tables reported on school performance solely by publishing raw attainment data. Moreover, even today, league tables still include publishing the percentage of students passing their General Certificate of Secondary Education (GCSE) with five or more A\*-C passes or the percentage of students in school reaching a particular National Curriculum (NC) level. In 2002 value added measurements were published for schools ([http://www.education.gov.uk/performancetables/schools\\_08/s3.shtml](http://www.education.gov.uk/performancetables/schools_08/s3.shtml)). The value added data measure the progress that a student has made in a certain stage of education. The value added score for the school is the average of the value added score of every individual student in the school ([http://www.education.gov.uk/performancetables/schools\\_04/sec3b.shtml](http://www.education.gov.uk/performancetables/schools_04/sec3b.shtml)). These value added measures were meant to mirror the effectiveness of the schools. However, ongoing critique about value added measures lead to the implementation of contextual value added measures (CVA). These measures also take into account factors that lie outside the control of the school, e.g. gender, special educational needs of students, family circumstances and other factors that are known to affect the performance of students in schools. CVA are supposed to be a fair measure of school effectiveness that make comparisons between schools more meaningful ([http://www.education.gov.uk/performancetables/schools\\_08/s3.shtml](http://www.education.gov.uk/performancetables/schools_08/s3.shtml)).

Next to the accountability towards the governance level and the public, the head teacher is accountable to the governing body and has to inform the governing body about all important changes and developments at school. In order to provide the governing body with evidence for the annual progress of the school, the head teacher has to make an annual school self-evaluation on the management performance of individual teachers, school development plan and target setting (Day, 2005). Meanwhile, the school self-evaluation is not only meant as accountability measures to the governing body of the school, but it is also the starting point for the Ofsted inspectors (Department for education and skills & Office for Standards in Education, 2004).

Schools are inspected at least every 5 years by the Office for Standards in Education (Ofsted). Ofsted has been established "to provide qualitative reports for every state school in England and to make them available to parents through publication" (Kelly & Downey, 2011). Ofsted forms a direct link between schools and the DfE. Currently, the Ofsted inspects maintained schools based section 5 of the Education Act 2005. The "inspectors must report on:

- the quality of the education provided in the school,
- how far the education meets the needs of the range of pupils at the school,
- the educational standards achieved in the school,
- the quality of the leadership in and management of the school, including whether the financial, resources made available to the school are managed effectively,
- the spiritual, moral, social and cultural development of the pupils at the school,
- the contribution made by the school to the well-being of those pupils,
- the contribution made by the school to community cohesion" (Ofsted,2009).

The results of Ofsted inspections are published at the homepage of Ofsted and often local newspapers publish summaries or excerpts of the inspection reports.

The inspection by Ofsted is meant to influence policy thinking and the policy making (Ofsted, 2009). The pressure on schools regarding good inspection results is meant to stimulate schools to put more effort on the improvement of performance (Huber, Moorman & Pont, 2007). Low inspection results and a low ranking in league tables that is based on exam results lead to a less good reputation of an individual school and may result in decreasing student numbers of that particular school. Due to the reason that funding of schools is based on student numbers, schools continuously feel pressured to perform high and to improve. The head teacher is responsible for setting up an action plan with a clear time scale that states which remedial actions are to be taken regarding any deficiencies stated by the inspection team (Huber, Moorman & Pont, 2007). The annual school self-evaluation report of the head teacher to the governing body of the school will capture the evaluation of the interventions that have taken place in order to act upon the detected shortcomings.

### Method

This paper describes findings from an exploratory study that examined data use by school leaders and teachers in secondary education in the Netherlands and in England. In the Netherlands, 15 school leaders and assistant school leaders and 16 teachers of six schools were interviewed. In England, 39 school leaders and middle managers and 16 teachers of six schools were interviewed, using the same interview schedule. The results were analyzed and compared according to our theoretical framework.

### Results

Teachers and school leaders described using a wealth of data from input, process and output data for a big variety of purposes. English school staff had access to more sophisticated data than Dutch school staff. However, in some cases the data use did not directly lead to genuine improvement actions and in a few cases, unintended data use was reported. More genuine improvement actions were reported by English school staff than by Dutch school staff. In Table 1, the purposes of data use as commonly reported by school staff are presented.

Table 1 *Purposes of data use in The Netherlands and England*

Conceptual data use	<ul style="list-style-type: none"> <li>• Merely analysing data and enriching own knowledge (NL, EN)</li> <li>• Sharing and discussing data (NL, EN)</li> <li>• Celebration and motivation purposes (NL, EN)</li> </ul>
Instrumental data use	<ul style="list-style-type: none"> <li>• Adjusting/adapting the curriculum (EN)</li> <li>• Organisation of the school, the classroom and the support (EN)</li> <li>• Professional development (EN)</li> <li>• Formulating development plan (EN)</li> <li>• Informing the lesson planning and the instruction (NL, EN)</li> </ul>
Symbolic data use	<ul style="list-style-type: none"> <li>• Advertising the school (EN, NL)</li> <li>• Awarding students and teachers (EN)</li> <li>• Sharing data, for example with Ofsted or the inspection (NL, EN)</li> <li>• Showing progress/performance of the school (NL, EN)</li> </ul>
Political/persuasive	<ul style="list-style-type: none"> <li>• Writing reference letters to colleges (EN)</li> <li>• Justify budget (EN)</li> </ul>

The results further show that similar factors influence the use of data in both contexts (see Table 1). With regard to school organizational characteristics, the role of the school leader was crucial in both contexts. The school leader needs to facilitate teachers in time to use data, but also needs to support

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data use, be enthusiastic about it, and be a role model when it comes to using data. In both contexts, teachers did not collaborate around the use of data. Collaboration can increase effective data use. Teachers in England indicated that they had received training in the use of data, and in their schools a data expert was available, whereas teachers in the Netherlands indicated that they felt they needed training in the use of data, and could use the support of a data expert. Surprisingly, in both context there was a lack of a clear vision, norms and goals. Teachers in both context indicated that they could use data use guidelines: When do we need to use what data, and for which purposes. Concerning data and data systems, teachers in both contexts complained about the data use infrastructure, for example with regard to access to information management systems. Also, some data were not available timely. Teachers in the Netherlands did not have high quality sophisticated assessment data available to them, such as in England. However, teachers in England seemed to have a narrow focus on the use of achievement data only, whereas in the Netherlands, teachers talked about the use of different types of data, including student survey data and parent data. Finally, in terms of data user characteristics, bot Dutch and English teachers were positive about the use of data. However, Dutch teachers indicated that they felt they sometimes lacked the knowledge and skills needed to use data effectively (see also training).

Table 2 *Factors influencing data use in the Netherlands and England*

<b>Netherlands</b>	<b>England</b>
<i>School organization</i>	<i>School organization</i>
Support school leader	Support school leader
Lack of teacher collaboration	Lack of teacher collaboration
<b>Lack of support and training</b>	<b>Sufficient support and training</b>
Lack of vision, norms and goals	Lack of vision, norms and goals
<b>Need data expert</b>	<b>Have data expert</b>
Need data use guidelines	Need data use guidelines
<i>Data and data systems</i>	<i>Data and data systems</i>
Need more effective infrastructure	Need more effective infrastructure
<b>Lack of access to (high quality) data</b>	<b>Sufficient access to high quality data</b>
Problems with timely data	Problems with timely data
<b>Different types of data</b>	<b>Focus on achievement data</b>
<i>User characteristics</i>	<i>User characteristics</i>
Positive attitude	Positive attitude
<b>Lack of data use knowledge and skills</b>	<b>Sufficient knowledge and skills</b>

### **Conclusion and discussion**

The results show that both in the Netherlands and in England vast amounts of data (assessment data, but also, for example student survey data) are available, although the data in England are more technically advanced (e.g. more standardized and value added achievement data). The results further show that although data are available, data use is limited in both countries. In England there is a specific emphasis on data drawn from the results of national assessments of pupils' academic attainment at the end of specific phases of education. In the Netherlands, several teachers perceive data use as a "managers task". While in both countries teachers reported using data to inform instructional decision-making (at classroom level) or policy decisions (at school level), the majority of school staff use data mainly to monitor rather than to make improvements. The results of this study further show that different factors can enable effective data use, such as support by the school leader, teacher collaboration around data use, and having a clear vision and goals for data use.



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