

4 Characteristics of education systems and central functions of education

4.1 Introduction

With the research line 'Characteristics of education systems and central functions of education', partly as a follow-up to the literature study by Webbink *et al.* (2009), the Dutch Programme Council for Educational Research (PROO) aims to stimulate research into the effects of system characteristics on the degree to which education is capable of achieving the central functions of education. Characteristics can be divided into *system characteristics* on the one hand, such as differentiation, vocational orientation and options for moving between and within levels of education, and on the other hand characteristics relating to *management and accountability*, including financing, examining and other indicators of standardisation of the *governance* of educational organisations. These system characteristics can vary over time, between schools and between countries. Relevant questions in this respect are whether, and to what extent, particular system characteristics advance or obstruct the fulfilment of these central functions.

4.2 Theoretical orientation

In educational research, four central functions are generally assigned to education: (1) promoting equal opportunities: the *equal opportunities function*; (2) selecting pupils efficiently on the basis of their learning capacities: the *selection function*; (3) serving the labour market with relevant knowledge, skills and competences: the *allocation function*; and (4) teaching knowledge, skills and competences for non-economic outcomes, such as social and political participation, health and reducing crime: the *socialisation function* (Peschar & Wesselingh 1999; Borghans *et al.* 2008).

According to the *equal opportunities function* of education everyone with the same learning capacities and effort should have the same opportunities to achieve good performance and move on to higher levels of education, irrespective of social background, sex or ethnicity. Given the central role of education in the process of social stratification throughout a person's life, education is pre-eminently suitable for promoting equal opportunities which go beyond just education. With regard to equal opportunities, it is appropriate to draw a distinction between inequalities resulting from differences between social classes, ethnic groups or boys and girls in terms of educational performance displayed, and inequalities which result from following different educational paths even if differences in performance are kept constant.

The *selection function* of education concerns the ideal placement of pupils on different educational paths, optimising the production of knowledge and skills. By means of efficient selection, education achieves efficient (and optimal) production of knowledge and skills and lower drop-out rates, because the best possible connection is achieved between pupils' talents and interests on the one hand and the learning outcomes on the other.

The *allocation function* of education comprises the teaching of knowledge, skills and competences which are important for functioning effectively on the labour market. Education systems have largely been established and developed on the basis of this

central task of education, founded on the idea that (post)industrial economies have a need for technical and cognitive knowledge.

The *socialisation function* of education comprises the acquisition of knowledge, skills and competences for a wide range of non-economic outcomes. Education can be a tool for increasing the involvement of young citizens in society so that they do more for society later on, in the form of voluntary work or political participation for example. Education can also potentially have an effect on people's health and on (preventing) criminal behaviour. Finally, education can influence attitudes and behaviour which are generally regarded as appropriate and productive, both in social interactions and in the workplace.

4.3 Themes

For the research line *Characteristics of education systems and central functions of education*, the PROO has formulated two broad themes. These are (1) the relationship between education system characteristics and the four functions of education and (2) management and accountability.

Education system characteristics and the four functions of education

The first broad field of research where the PROO aims to encourage research by means of this programme concerns the question of whether education system characteristics influence the fulfilment of the four central functions of education. Education system characteristics include features of an education system with regard to the different types of education on offer, the sort of knowledge and skills that take centre stage, and the extent of possible tie-ups between these types. These characteristics may differ between countries, between time periods within countries and between schools within different periods.

One collection of education system characteristics concerns the extent of (internal and external) differentiation which exists in a system (Bosker 2005; Shavit & Müller 1998). To what extent does a system distinguish different learning paths and/or school types for pupils of the same age? In general, research focuses mainly on differentiation within secondary education, but there may also be differences between countries, in time and between educational organisations in tertiary education as well. Relevant questions to ask concerning the influence of differentiation on functions of education include the following. To what extent and why does differentiation:

- result in greater inequalities according to social background, sex and ethnicity?
- strengthen the indicator function of education on the labour market?
- contribute to greater efficiency of learning?
- reinforce differences between pupils in terms of non-economic outcomes?

Second, education system characteristics contain variations between countries, time periods and educational organisations in the extent to which education generates *vocation-specific* knowledge and skills (Müller & Gangl 2003). In some education systems, there is a huge degree of vocational orientation expressed in a comprehensive system of vocational education at various levels and relatively close involvement of employers in fleshing out the details of that education. For this system characteristic, it is important to investigate whether strongly developed systems of vocational education mainly have effects for those who were schooled in vocational education, or whether system effects are also apparent for school leavers from other study programmes. It is also important to investigate which characteristics of vocationally oriented systems have most influence on the central functions: is it the involvement of employers, the content

of the curriculum and/or the scope of the vocational education? Relevant questions to ask concerning the influence of vocational orientation on the central functions of education include the following. To what extent and why:

- does the vocational orientation of education systems facilitate the transition from school to work?
- does vocational orientation influence social inequalities according to social background, sex and ethnicity?
- does vocational orientation influence non-economic outcomes?
- has vocational education acquired a different position in recent decades in the distribution of labour market outcomes? Are more and more generic skills being acquired in vocational education? What does this mean for the position of vocational education with regard to moving on to higher education and connecting with the labour market?
- does vocational orientation influence efficient selection of pupils on the basis of their talents and interests?

A third type of system characteristic concerns the options available for moving on and crossing over from one type of education to another (Hallinan 1996; Kerckhoff 2001). Again, this is a characteristic which may differ between countries, between time periods within countries and between educational organisations. In relation to this system characteristic, the following relevant questions can be asked. To what extent and why do mobility options:

- influence inequalities according to social background, sex and ethnicity?
- promote efficient selection?
- influence the knowledge-generating and indicator function of education on the labour market?

Management and accountability

A second broad field of research where the PROO aims to initiate research concerns the question of whether and how management and accountability rules influence the fulfilment of the central functions of education.

National education policy, as an independent factor and in interaction with the above-mentioned institutional characteristics, can influence the input, process and outcomes of education. Political interventions can therefore be differentiated according to input (extent and allocation of resources), process (control of the curriculum) and output (rewards or sanctions based on performance). A more analytical distinction is that according to government roles or core tasks: financier, regulator, service provider and supervisor.

Financier

Two important forms of state funding of education can be distinguished: (1) financing or (partially) subsidising educational institutions (ranging from salaries to maintenance) and (2) subsidising the consumers of education (pupils or their parents).

The first form, supply financing, is dominant in most countries. The conditions for subsidising or financing of educational institutions can differ widely, however. The most far-reaching system is lump sum financing. This involves a sort of *contractual relationship* between state and institutions. The production of education is outsourced, as it were, to independently operating institutions. The aim is the expansion of the institutions' financial and planning needs and a stronger emphasis on results and quality control. The distinctive feature of widely used systems is that there is a *premium* on better results or performance.

The second form of funding, subsidising the consumers, has been championed in recent years, particularly in higher education and with a view to lifelong learning. The best-known form of this is the voucher system. Under this system, pupils or students present their vouchers to an educational institution of their choice and the institutions receive a sum of money from the government in return for each voucher. Underlying this system is the idea that promoting individual choice will better motivate schools to do their best. Voucher systems could serve a range of objectives: increasing consumer sovereignty, promoting a more equal distribution, stimulating recurrent education, improving quality, making supply more flexible and simplifying the management of post-school-age education. Demand-driven financing can also be found in the financing of specific target groups, such as pupils with a disability (e.g. the 'pupil-specific special educational needs funding') and remedial pupils ('Weight rules').

Beside attempts to place more emphasis on consumer or demand financing and a change in the way in which the institutions are funded, a change in the sources of financing has also taken place. The best-known and most important form is the reduction of the government's share in the financing of certain activities and broadening of the options for switching to contract activities (financing by private parties).

Relevant questions to ask in relation to this government role might include: to what extent do specific forms of financing (supply, demand and performance financing) give the best possible incentives to educational institutions, parents and pupils or students, so that the four functions stated of education are fulfilled efficiently and effectively? Do shifts in the sources of financing, due to the increase in the private share for example, have an effect on equality? Does the additional financing for specific target groups such as remedial pupils, pupils with a disability or pupils with specific talents have an effect in terms of promoting the equality of these target groups?

Regulator

In the (de)regulation discussion, a distinction is often made according to fields and freedom of decision-making at the level of the institutions: financial, organisational, staffing, curriculum and own resources. This gives us an indicator of the degree of autonomy of educational institutions. An indicator of this kind can also be found in the OECD's Education at a Glance project.

Educational economist Estelle James (1988) draws a slightly broader distinction in terms of regulation, namely according to: (1) physical environment (buildings, equipment, etc.); (2) academic content (curriculum, learning time, exams, language of instruction, timetabling, etc.); (3) organisation and accountability (annual report, financial report and other accountability requirements); (4) pupils and teachers (salaries, certification, appointment and dismissal procedures, tuition fees, pupil admission requirements, compulsory education, etc.); and (5) decision-making powers of institutions (budget allocation, teaching methods and teaching material).

Various studies have shown that the quality of the teacher is a very important factor (OECD 2007). The state as regulator plays a role (see point 4 above) in the regulation of salaries, admission conditions, study programmes and support for professionalisation and thereby attempts to influence quality (Béteille & Loeb 2009). An important question is whether this role actually contributes towards increasing quality.

Finally, the type of regulation can also be characterised according to different dimensions: global versus detailed, and uniform versus specific. The school timetable

(length of lessons, timetabling, subjects) can be defined very specifically, for example, but can also be left entirely to the schools.

Questions which may be relevant with regard to this government role include the extent to which and why specific forms of regulation and the field to which regulation relates contribute towards the efficient and effective fulfilment of the four functions stated. Particular attention should be paid to regulation with regard to the quality of the pool of teachers in a country.

Service provider

Even where the state has complete responsibility for education, it can outsource its implementation to public or private parties, or to a combination of the two. The form which that takes varies enormously from country to country. From an international perspective, there is a broad spectrum of organisational forms, ranging from free and freely accessible state schools to profitable private (selective) institutions (see diagram).

A typology of organisations in the private and public sector

Characteristic	Private sector		Public sector		
	Purely private	Mixed	Decentralised	Mixed	Centralised
SOURCE OF FINANCING	Own contributions (parents, etc.)	Own contributions plus government	Local contributions	Local plus central contributions	Full central financing
BOARD a. Decision-making	Decisions by the school influenced by clients	Decisions by the school within government guidelines	Local decisions (as in autonomous regions or in federal systems)	Local decisions restricted by central guidelines	Decisions by central government
d. Charging of tuition fees	Market prices	Ceiling set by government	Local autonomy in setting fees	Level determined in part by central government	Level wholly determined by central government
c. Organisation	Free organisation	Some restrictions	Local coordination	Central guidelines + free scope	National curriculum

The debate in education focuses on the question of the extent to which the government has to transfer its role as service-provider to private parties and to act solely as a contractual partner. This is generally described as privatisation or granting of semi-autonomous status. In general, three types of privatisation or granting of semi-autonomous status can be distinguished: (1) privatisation of a public organisation in a fully competitive market environment; (2) privatisation of a public organisation in a monopolistic or otherwise incomplete market environment; and (3) outsourcing (contracting) of publicly financed service provision (Kremers, 1995). In the granting of semi-autonomous status, in any form, the question of the quality of the controlling bodies also plays a part of course.

Questions which may be relevant with regard to this government role include the extent to which and why the specific characteristics of service provision (market, central government, local government) contribute towards the efficient and effective fulfilment of

the four functions stated. Particular attention should be paid to the degree of autonomy enjoyed by educational institutions vis-à-vis the state and possibly their own boards.

Supervisor

In recent years there has been increasing interest in the importance of accountability systems. Vital questions in this respect are: who accounts for what, to whom and with what consequences? To put it briefly, is it the school or another body such as a school board which is held accountable? - the 'who question'. Does it account for the input, the process or the output? - the 'what question'. Does it report to horizontal stakeholders (parents, etc.) and/or to vertical stakeholders (public bodies)? - the 'to whom question'. And what sanctions or rewards follow? - the 'what consequences question'. A lot of empirical research has concentrated on the use of test scores with harsh consequences (high-stakes testing) and national examinations as an accountability instrument (Woessman & Peterson 2007).

Questions which may be relevant with regard to this government role include the extent to which, and why, the specific characteristics of the accountability systems (who, what, to whom and with what consequences) contribute towards the efficient and effective fulfilment of the four functions stated. Particular attention should be paid in this respect to the question of examinations (high/low stakes) and the role of the external inspectorate.

4.4 Literature

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