Standardized testing and the construction of governable persons

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While debates over standardized testing are ubiquitous, there has been relatively little consideration of how today's standardized testing practices have arisen. The current study provides a chronology of standardized testing within Alberta, Canada. Starting from prior work by Foucault and others on 'governmentality', we propose that the movement to standardized testing be viewed as part of a larger societal movement toward techniques of government that operate indirectly and at a distance. These techniques of government seek to 'manage' populations through the use of measurement tools and numerical calculations. We suggest that, although these techniques are directed toward populations, they also have specific effects on individual students, parents, teachers, and other participants in the education system. In particular, we contend that standardized testing programmes, by rendering the participants visible and subjecting them to public scrutiny, contribute to the construction of governable persons.

[F]he examination is at the centre of the procedures that constitute the individual as effect and object of power, as effect and object of knowledge. It is the examination which, by combining hierarchical surveillance and normalizing judgement, assures the great disciplinary functions of distribution and classification . . . (Foucault 1984a: 204)

Foucault (1991a), in his work on ‘governmentality’, suggests that modern government functions by a diffuse network of indirect power, rather than through direct control. No longer limited to the clumsy instruments of sovereign power, such as military force and imprisonment, governments of today achieve their goals through techniques that create cooperative and self-disciplining citizens. The tools of modern government act continuously and invisibly, says Foucault, rather than overtly. Administrative rather than coercive, they are, at least superficially, benign. In this study, we examine how one such tool, standardized testing in the education system, has evolved in Alberta, Canada. We contend that, although standardized testing may serve its ostensible purpose of measuring student performance, it also functions as a mode of government control by helping to construct governable subjects.
‘Standardized testing’ refers generically to tests that are uniformly administered and uniformly scored (Bond 1996). Standardized tests include norm-referenced tests, in which a student’s individual result is compared to the normal distribution of results in a population, and criterion-referenced tests, in which a student’s result is compared to a specified performance level. Norm-referenced tests are used to rank students and to identify those with special needs. Criterion-referenced tests, widely employed in Canadian provincial education systems, are used to assess a student’s mastery of the curriculum and to evaluate teacher and school effectiveness. Because a normal distribution can be ‘standardized’ statistically, and because the specified performance level for a criterion-referenced test can be referred to as a ‘standard’ that the students must achieve, and, furthermore, because the administrative procedures and content of a test can be ‘standardized’ (made uniform) across several schools or settings, our field of discussion suffers from an overloaded term. We are concerned with the generic sense here. We, therefore, refer to uniformly applied, uniformly scored tests that are often criterion-referenced when we use the term standardized testing.

The purpose of such tests is explicitly bound up with the issue of ‘accountability’ in the education system. In Ontario, Canada, for example, the testing has been conducted under the auspices of the Education Quality and Accountability Office (Scoppio 2000). The Ontario tests, although carried out on students, are quite openly designed as tests of curriculum, teachers, schools, and districts. In Victoria and New South Wales, Australia, standardized tests are integral to governing education systems, performing a significant role in curriculum reform (Barnes et al. 2000). In the USA, the pervasive adoption of standardized tests, along with the refinement of testing technologies, has led to large-scale commercialization in the form of a testing industry (Clarke et al. 2000). Despite the seemingly global adoption of standardized testing, however, its acceptance is not unanimous. Education theorists question the appropriateness of standardized testing, because such tests represent selective measures, and wonder how the tests affect the education process (Bigelow 1999, Popham 1999).

The debate over the value and purpose of standardized testing has, in recent years, moved out of the realm of educational theory and into public discourse (Simner 2000). In British Columbia, Canada, in 1998, the government attempted to release the results of the Provincial Learning Assessment Programme (PLAP), leading to conflict with the teachers’ union (British Columbia Teachers’ Federation 1998). In Alberta, the annual release of test results is now a public spectacle (e.g. Cowley 1999). Newspapers there give the results front-page coverage (e.g. Derworiz 2000, Knapp 2002), and the reactions of school trustees, teachers, parents, and administrators are quoted at length (Simner 2000). Comparisons in Alberta between individual schools, and between the public and Catholic school boards, occasion strong opinions. In this debate, some accept the results as legitimate while others question the validity of the entire notion of standardized testing. Among those who accept the results, there are many who interpret the results comparatively, and are delighted or upset by the relative performance of their favourite school or school board, much as sports fans might react to league standings (e.g. Cowley 1999). Among
those who question the validity of standardized testing, some point to the pedagogical narrowness of such testing and its inability to measure the essence of learning (e.g. Froese-Germain 1999). Between these two camps, various opinions are espoused on the value of the class-time spent on the tests—a sort of transaction cost approach to the debate—and on the possibility that some teachers ‘teach to the test’, as the popular phrase goes, thereby skewing the results. This summary of positions does not begin to capture all the possible stances on standardized testing, but it does highlight the variety of voices pertaining to the issue.

Although the debate over standardized testing is fierce, it often fails to provide the perspective necessary for understanding the issues. We seek to provide but one of many potentially helpful perspectives, by reviewing how a particular education system—Alberta’s—has arrived at its present set of standardized testing practices. Our purpose is to construct what Foucault (1984: 59), building on Nietzsche, calls a ‘genealogy’. We do this by building a chronology of standardized testing in Alberta, using public documents supplemented with interview data, and explaining this chronology using Foucault’s concept of governmentality and his provocative thoughts on the nature of examinations. In doing this, we extend the work of others, such as Scheurich (1994), who have applied Foucault’s methods and ideas to education research.

In building a genealogy of standardized testing in Alberta, we try to reveal the mechanisms by which standardized testing has been adopted, and to show how these tests function indirectly to achieve the goals of government. Although the genealogy we offer derived from a specific jurisdiction, the implications may have broader applicability. Throughout North America—and beyond—school jurisdictions have introduced standardized testing programmes (Simner 2000). We see this as part of an increasing movement toward the governance of education from a distance, using funding mechanisms and other administrative techniques (Ogawa 1994, Whitty et al. 1998, Rowan and Miskel 1999). We expect, therefore, that our analysis of the (un)intended consequences of standardized testing will help educators and others understand how standardized testing helps to construct governable persons.

**Theoretical framing**

**Genealogy**

Nietzsche (1967: 77) explains that genealogy separates the origins of a social practice from its purposes:

[T]he cause of the origin of a thing and its eventual utility, its actual employment and place in a system of purposes, lie worlds apart; whatever exists, having somehow come into being, is again and again reinterpreted to new ends, taken over, transformed, and redirected by some power superior to it. . . . [T]he entire history of a ‘thing’, an organ, a custom can in this way be a continuous sign-chain of ever new interpretations and adaptations whose causes do not even have to be related to one another . . . .
In other words, the construction of a genealogy is not the search for a root cause, nor an attempt to develop a grand narrative. Rather, it is an attempt to reveal, behind the continuous chain of interpretations, the discontinuous sequence of powers that take turns bending the 'thing' to new uses and purposes.

Foucault’s (1980: 49, 1984b) interest in history was similar: to attempt to sketch the sequence of events that led to a current situation. History, he claimed, is only ever understood from our present vantage-point. Each time one reviews or rewrites history, one reinterprets it in light of one’s present concerns. Every history, therefore, is a ‘history of the present’ (Foucault 1977: 31).

**Governmentality**

In 1978, Foucault delivered a series of lectures at the Collège de France in Paris, entitled ‘Security, territory and population’, in which he addressed the nature of government. He described its evolution from Machiavellianism to its current broad form in the Western world, sometimes characterized as advanced liberal democracy. Foucault traced the movement of the domain of government from relatively simple issues of security—the retention of power by an individual prince in a small state—to the administration of territory in the 17th and 18th centuries, and on to the control and conduct of populations in the 19th and 20th centuries. He talked about the modes of thinking and acting necessary for the conduct of modern government: government mentality, or, as he termed it, *governmentality* (Foucault 1991a).

Foucault sought to explain how modern government effects its rationalities: how it knows what it must do, and how it accomplishes what it must do (Dean 1994: 179). One of the key insights of his approach was the recognition that governance is accomplished by means of a network of heterogeneous agents and heterogeneous sites (Miller and Rose 1990: 8). For example, economic activity in modern societies is regulated not just by legislators and law-enforcement agents, but by a vast array of central bankers, stock-market members, investment advisors, commercial bankers, accountants, securities commissioners, and institutional investors, all regulated and self-regulated to varying degrees; all using mundane technologies, computations, calculations, surveys, tables, training programmes, and assessment tools that make economic government possible. All of these agents are enlisted, not just by requirements that they follow certain regulations, but also by their overlapping and loosely aligned interests and by the very technologies and routines they use, to the goal of continuous and orderly functioning of the economic system. Government economic policy is both effected and constrained by the routines and techniques of these agents, operating simultaneously at a multitude of nodes in this heterogeneous network. Many or even most of the nodes in this network are not part of ‘the government’ in any official sense. The functions of modern government transcend the boundaries of modern government. Policy is pervasive.
Foucault wanted to understand how policy *per se* came to be. He examined how diverse social mechanisms and procedures of knowledge play a role in ‘rendering certain aspects of existence thinkable and calculable, and amenable to deliberated and planful initiatives’ (Miller and Rose 1990: 3). Foucault postulated government as a discursive field, one predicated on language as a flexible medium in which agents can innovate modes of discourse as required (Miller and Rose 1990: 5, Foucault 1991a: 91, 1991b). For example, he argued that, as the problems of government changed from those associated with feudalism to those of mercantilism, discourses about governance also changed. In these discourses, the paradigm of population replaced that of family (Foucault 1991a: 99). Population thereby supplanted geographical territory as the domain of government. The tools required to manage territory are institutional; those required to manage population are numerical and statistical. Consequently, the art of government became political science, and the *structures* of government were replaced by *techniques* of government (Foucault 1991a).

Latour (1987) explored the nature and history of such techniques. He coined the phrase ‘action at a distance’ when he looked at the way maps and tide-tables enabled 18th-century France to direct the movement of ships to colonize the East Pacific. The distant places were translated into stable information traces—maps, for example—that could be transmitted efficiently to centres of control. Miller and Rose (1990) extended Latour’s concept when they examined ‘government at a distance’. They pointed out that the government of populations, as opposed to the government of places, requires the transmittal of information about the population. That is, distant populations must be translated into these transmittable, stable, information traces. This requirement spurred governments to develop techniques for knowing populations (Said 1979, Bell *et al.* 1995).

Information about populations is not basic, but derived. It must be generated, aggregated, and calculated. Hence, the advent of the census in the 19th century (Rose 1991), the emergence of accounting as a standard tool for reporting information to centres of government (Miller and Rose 1990, Neu 1999), and the emergence of modern standardized examination procedures in the early–20th century (Stoskopf 1998, Sacks 1999). Foucault (1991a: 102), however, recognized that the discursive nature of government is not merely transactional or descriptive, but is *generative*: the construction of statistics about crime rates, for example, not only describes an aspect of a population, but modulates that aspect. To be precise, it changes the aspect into something communicable, renders it as a potential and actual subject of discourse, and thereby creates the means by which the aspect can be subjected to administrative programmes. Administration, in other words, by its own mechanisms renders a population administrable (Miller and O’Leary 1987). Miller and Rose (1990: 8) show that the tools of government evolved into technologies of intervention: examination and assessment, training, propagation of forms: *forms*, not only literal paper ones for people to fill out, but also forms in Alexander *et al.*’s (1977) sense, such as those forms and patterns of construction mandated in building codes; and *propagation*, not simply in the adoption of standard forms by entire departments of government, but in Ellul’s (1967) sense of the self-fulfilment
and self-propagation technique. Such fundamental techniques as counting and list-making were pushed into new uses. Other technologies that are now taken for granted had to be invented, like tables of information and policy manuals (Miller and Rose 1990: 8).

Examination as a tool of government

These ideas on the emergence of techniques of governance are provocative. They explain how a focus on populations as the target of government encouraged the development of techniques for knowing populations. Prominent among these techniques is the examination, a quintessential tool for the government of the individual. Although government is concerned with populations, its impact on individuals should not be ignored (Dean 1994: 176, Preston et al. 1997). Indeed, according to Foucault (1977: 184–194), examinations were fundamental to the development of the modern notion of the individual as a complex being. Examinations both ‘construct’ and ‘discipline’ those who are examined. In Foucault’s (1984a: 197) words:

The examination combines the techniques of an observing hierarchy and those of a normalizing judgement. It is a normalizing gaze, a surveillance that makes it possible to qualify, to classify, and to punish. It establishes over individuals a visibility through which one differentiates them and judges them. That is why, in all the mechanisms of discipline, the examination is highly ritualized.

Foucault (1984a: 199) suggests that examinations impose on examinees a compulsory visibility. Through examinations, attributes of the examinees are made visible, thereby enmeshing the examinees in particular relations of power. Furthermore, the permanent accumulation of these documentary traces in government files and databases introduces individuality into the field of documentation and ‘constructs’ the examinee as a ‘case’. This case ‘is the individual as he [sic] may be described, judged, measured, compared with others, in his very individuality; and it is also the individual who has to be trained or corrected, classified, normalized, excluded, etc.’ (Foucault 1984a: 203). From this perspective, standardized tests, as a prevalent and particular type of examination, are disciplinary procedures that construct and objectify students.

A history of the present

Chronology of standardized testing in Alberta

The chronology of standardized testing we offer here was constructed from interview and archival data obtained at both the provincial and municipal levels. At the provincial level, we spoke with staff members at Alberta Learning (formerly Alberta Education), the ministry responsible for education (Alberta Learning 2000b). At the municipal level, we spoke to
staff members at the Calgary Board of Education (CBE), the body responsible for one large public school system (CBE 2000a). Together, the public school system, the publicly funded Catholic school system, home schooling, and a small but growing number of private schools provide for the education of school-aged children in Alberta. All of these schools are governed by the province’s School Act and participate equally in any standardized testing mandated by Alberta Learning. In our conversations, the participants referred to several government documents pertaining to standardized testing in Alberta. These documents (Worth 1972, Harder 1977, Alberta Education 1979, 1983, Mowat 1980, Alberta Learning 2000a), together with documents provided by the CBE (1985, 2000b), form the basis for the chronology we have constructed.

Our chronology of changes to standardized testing in Alberta begins in 1971. Until then, Alberta had used ‘departmentals’, final examinations that provided the only assessment of graduating high school students. However, in the early 1970s, standardized testing fell out of favour. The Worth Report of 1972, commissioned by the Alberta Government in 1969, exemplifies the thinking of the time when it says:

External examinations, as presently conceived and used, simply distort the whole process of schooling. They inhibit learners, restrict teachers, perpetuate corrosive and artificial subject and programme distinctions, and subvert the more meaningful goals of education (Worth 1972: 206).

Alberta followed the practice of many school systems of the day when, on the recommendation of the Worth Report (Worth 1972: 300), it dropped departmentals. Mowat (1980: 45) explains:

In 1973 the province terminated mandatory use of provincial examinations in seven subjects commonly used for university entrance. These examinations are still available to students who wish to challenge teacher-assigned marks, and to school systems which wish to use common final examinations. In general, however, final marks in matriculation subjects now are determined within local school systems without use of externally prepared examinations.

Because the remainder of the chronology demonstrates an increasing reliance on such ‘external’ examinations, the decision to drop departmentals is something of an anomaly, a failure of a government programme. However, governmentality is inherently optimistic: failure of programmes merely begets new programmes (Miller and Rose 1990: 4). Thus, in terminating the use of departmentals, the province was not ceasing to measure graduating students. It was merely decentralizing its mechanisms for measurement by pushing responsibility for a final assessment to the local school systems.

There were political forces behind this decision. In 1971, a new government had been elected in Alberta. The previous governing party, the Social Credit Party, had been in power for 36 years. An ageing party with predominantly rural support was defeated by a younger group of candidates belonging to the Progressive Conservative Party. The Progressive Conservatives were more representative of the demographics of Alberta (Radcliffe 1998), which had become younger and more urban during the later years of the Social Credit reign. The Progressive Conservatives
promised a more open, managerial style of government, and the decentral-
ization of matriculation decisions may have been influenced by this promise.
However, what appears to be a shift in policies between the Social Credit
and the Progressive Conservative parties was in fact a shift that transcended
party lines. The Worth Report had been commissioned by the Social Credit
government in 1969, well before the election of the Progressive Con-
servatives. The needs of young urban families required a response from
government. That the successive governments of both parties combined to
respond illustrates Foucault’s assertion that the domain of government has
become ‘population’ rather than ‘geographical’ territory.

The discontinuation of departmental examinations is unique in the
chronology of standardized testing in Alberta, because it is explicitly
grounded, through the Worth report, in fundamental arguments about the
validity of testing. From this point on in the chronology, the increasing
adoption of standardized testing begins to draw dissent away from the
fundamental topics of the purpose and effectiveness of education, to
derivative debates about administrative aspects of testing and about the
validity of the results. This shift of focus from the fundamental to the
superficial or consequential is a characteristic effect of tools like standar-
dized testing that translate populations into numbers. Debate about such
numericizing tools tends to centre on the correctness of the numerical value
and on the methods of its derivation, rather than on the appropriateness of
translating people into numbers at all. For example, consider the promotion
of discounted cash-flow techniques by various arms of the British
government during the late 1960s. Advocacy of this new management tool
drew energy and attention away from the British government’s policy of
economic expansion, which the discounted cash-flow technique supported
(Miller and Rose 1990: 16–18). (For an example related to standardized
testing, see Haney (2000), in which concerns over race biases in testing are
diverted into numerical matters.2)

Lost in this conflict over the numbers is the prior translation whereby
people are first defined as a population (Foucault 1991a: 99); and not just
a single population, but an imbrication of populations, each overlapping
group administrable with its own government programme. The people—in
this case children—are converted into a population of test subjects. Only
then can the population be, to use a suitably ugly word, numericized. This
series of steps simplifies the general problem of government, and the specific
task of administering a school system, by reducing a set of complex
individuals into describable groups of people with measurable attributes
(Rose 1991).

Anecdotal concerns began to surface in Alberta in the mid-1970s about
students who graduated from the school system unable to read, despite
obtaining high average marks in their schoolwork. Some blame for this
perceived situation was laid on the non-compulsory nature of the depart-
mental examinations:

In response to growing public concern, the Legislative Assembly of Alberta
passed a motion on October 19, 1976 requesting that a study be conducted to
examine the effect of the withdrawal of grade 12 departmental examinations
on student achievement (Alberta Education 1979: 58).
This motion eventually led the provincial government to establish a Minister’s Advisory Committee on Student Achievement (MACOSA). This committee was formed ‘to study the problems related to student achievement in Alberta and make recommendations for their solution’ (Mowat 1980: i). Mowat does not list ‘the problems’, nor does he say how student achievement came to be defined as an official problem. The terms of reference for MACOSA do not use the word ‘problem’ at all. These terms are, therefore, worth quoting in part:

4. Terms of reference

4.1. The committee shall study the elements of student achievement and will select appropriate elements as a focus or guide to its activities.

4.2. Aspects of student achievement which shall be studied include the following:
   (i) Rationale—the purposes, basic principles, assumptions underlying student achievement.
   (ii) Definitions of student achievement.
   (iii) Scope—instruction and achievement.
   (iv) Standards and their maintenance.

4.3. Committee recommendations shall attend to the following matters:
   (i) Commissioning of papers, studies, and/or projects concerning the dimensions of student achievement identified above, provided however that each such proposal which will result in an expenditure of more than $3000 shall be submitted to the Minister for his approval before its commissioning.
   (ii) Considering the effect of the non-compulsory nature of Grade XII Departmental Examinations on the quality of education in Alberta.
   (iii) Ways and means to assess, maintain, and improve student achievement (based on findings from (i) and other considerations).
   (iv) Such other matters as may be referred to the Committee by the Minister. (Alberta Education 1979: 81–82).³

Nowhere in the terms of reference is the word ‘problem’ used; instead, the words ‘elements’, ‘aspects’, and ‘dimensions’ of student achievement are used. Yet, MACOSA, by the time it wrote its report, understood its mandate to be to study and make recommendations for the solution of ‘the problems related to student achievement in Alberta’. Although these are ‘only’ words, this is a felicitous example of how governmentality, as a discourse, initially identifies aspects of ‘population’ and eventually reifies them as problems that must be addressed administratively. Note that 4.3(ii) specifically mandates MACOSA to study the effects of the 1973 decision to discontinue compulsory departmental examinations. This is a vestige of the 19 October 1979 legislative motion.

MACOSA commissioned 18 studies, including some involving interpretation of test scores and some that surveyed statistically and anecdotally
the opinions of various interested parties, such as parents, teachers, administrators, and members of the public. Five of the 18 studies measured student achievement using norm-referenced tests in a random sampling of Alberta schools, to establish a baseline for student achievement in Alberta. Five other studies of the 18 attempted to develop new tests for listening and speaking, and for student attitudes. The data, conclusions, and recommendations of the researchers were assessed both by the steering committee and an ‘interpretation panel’ for each study (Alberta Education 1979: 62). The studies found that all except the new listening and speaking tests were reliable and valid (p. 65).

The MACOSA reports were submitted to the Minister of Education in May 1979. They contained three broad recommendations and 14 supporting recommendations. The three broad recommendations were:

I. That MACOSA-type tests be administered periodically at selected grade levels, but with sampling plans extended to permit generalization of results to school system populations.

II. That mandatory Grade 12 Departmental examinations, for the purpose of awarding final marks, not be reinstituted.

III. That Alberta Education establish a Student Evaluation Policies Board composed of representatives of stakeholder groups to advise the Minister of Education on matters relative to student achievement (Mowat 1980: i).

‘MACOSA-type tests’ refers to a host of tests of academic prowess, student attitudes towards school subjects, and student attitudes towards the world of work. These proposed tests (Alberta Education 1979: 67) were to be based on the tests used by MACOSA in its 18 studies, with unspecified additions. Because many of these tests had been norm-referenced, norming was to be a prominent feature of the new testing programme. MACOSA recommended that the tests be administered on a 3-year cycle, with different subjects being tested each year (Alberta Education 1979: 66).

The purpose of these tests, according to MACOSA, was to give ‘feedback to publics, including reports on how local systems meet particular goals and objectives set by the province’ (Alberta Education 1979: 66). In addition, the testing programme would facilitate decision-making about improving the quality of instruction and about local system needs. There is, conspicuously, no mention of any direct benefit to the students. The tests are not conceived in MACOSA as providing feedback to the students on their own progress or achievement, but are proposed to enable provincial control of the school system.

The MACOSA reports generated considerable public attention and numerous official responses. Mowat (1980: ii) was appointed Minister’s Representative ‘in order to provide the most efficient means for coordinating and analysing the responses of individual citizens and interest groups’. His official summary of these responses included, by agreement with the Minister, the results of a specially-commissioned Gallup public opinion poll on the MACOSA recommendations. Mowat’s report was submitted to the Minister in December 1979.
As a result of the MACOSA reports, but prior to the completion of Mowat's report, the Minister of Education tabled legislation to implement achievement testing. This was in November 1979. However, the legislation was not exactly in line with MACOSA recommendations. Thus, it is unclear whether preliminary results from Mowat's study, which solicited responses from official groups (such as the Alberta School Trustees' Association and the Alberta Teachers' Association [ATA]) in mid-August, and continued to receive group and individual responses after its 15 October deadline (Mowat 1980), had any influence on the legislation. One critical influence on the legislation, however, appears to have been the release of the Harder Report.

The Harder Report was an initiative of the Curriculum Branch of Alberta Education. The report was released 2 years earlier than MACOSA, in 1977, but well after MACOSA was underway. Much less comprehensive than MACOSA, it was characterized by an instrumentalist approach to education:

> The effectiveness of schooling depends on how successfully the objectives are being achieved in the eyes of the public. Success or failure is judged on how well the graduates of schools, institutes of technology or universities do in the world of direct employment. (Harder 1977: 29)

The Harder Report (Harder 1977) recommended, among other suggestions, systematic monitoring of the school system. The recommendations called for assessment of student progress at four different 'check points' (p. 32): grades 2, 5, 8, and 11. These grades appear to have been chosen because the tests were intended to reveal which students require 'special attention' (p. 35). As such, the tests were proposed as *ex ante* rather than *ex post* indicators; that is, they would forewarn educators about student needs, rather than merely evaluate past performance. The clear and direct endorsement the Harder Report gave to standardized testing at four grade levels appears to have won the day. However, in what superficially was a minor shift, the government adopted testing in grades 3, 6, 9, and 12. The crucial point of this shift is that the testing is revealed to be *ex post*. Examinations at the end of grade 12, the last year of high school in Alberta, do nothing to help the student. They do, however, serve as a filter on the entrance to higher education and, perhaps more importantly, as a mechanism for monitoring the performance of the education system through a statistical evaluation of its finished product.

According to a staff member with Alberta Learning (2000b), the 1979 legislation was going to propose that achievement testing be required only at a sample of schools. Boards were to be given the option of including all their schools. However, when the minister learned that all the boards in the province except the largest ones in Edmonton and Calgary wanted all their schools to be tested, he decided to include every school in the province right from the start (Alberta Learning 2000b). It is unclear why the smaller boards wanted all their schools tested. However, their request illustrates Hanson's (1993: 306) comment about the social power of testing: 'Power has become refined indeed when people demand that they be subjected to it'.

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From a governmentality perspective, this expansion from a sample of schools to all schools fulfils the purposes of disciplinary power. Although perhaps more costly, this plenary approach may be much more effective than sampling would be at generating self-discipline. All schools are monitored, and all actors in the school system scrutinized. No one dares deviate from the approved behaviours.

The provincial testing programme mandated by the new legislation came into effect in 1982. Testing was done in grades 3, 6, and 9, and the tests were worth 50% of the student’s final mark. Four subject areas were tested in grades 6 and 9, but only one subject was tested each year, on a rotating basis. The same year, ‘comprehensives’ were introduced. These were voluntary examinations that grade 12 students could take to measure all subject areas. However, not many students elected to sit the comprehensive examinations, and teachers did not promote them (Alberta Learning 2000b).

In 1984, compulsory diploma examinations for grade 12 replaced the comprehensives. The reasons for this are unclear. The explanatory brochure released by the Minister of Education, entitled ‘Education for the Future!’ gives no rationale for the decision. The brochure merely outlines the new programme, stating such things as how the student’s mark will now be determined and outlining the appeal process. The only hint that there might be any fundamental questions about the programme comes from how meticulously such questions are ignored by the brochure. The prefatory paragraph of the brochure quotes the Minister of Education as saying:

This new direction by Alberta Education is important in order to develop and maintain excellence in educational standards throughout the province. We recognize that evaluation should be an integral part of the education process for Alberta students. External examinations are essential, educationally sound, and they are an efficient and accurate means of testing and monitoring student achievement. (Alberta Education 1983: 1)

This statement stands in denial of the deep and often emotional debate that has surrounded standardized testing over the years. It stands in complete contradiction to the government’s own 1972 Worth report, cited above, which stated, ‘External examinations . . . inhibit learners, restrict teachers, perpetuate corrosive and artificial subject and programme distinctions, and subvert the more meaningful goals of education’ (Worth 1972: 206). The fact that diploma examinations were being reintroduced only 11 years after being dropped indicates—contrary to the Minister’s confident assertions that the examinations were ‘essential’—that government policy on the examinations was see-sawing.

The new examinations were compulsory, and were worth 50% of the graduating student’s final mark. This was only the most noticeable change that took place in the 3 years following the adoption of MACOSA recommendations. A testing manual from 1985, provided by the CBE to its schools, catalogues a flurry of changes at many grade levels in the early-to-mid-1980s as the district adjusted its testing practices to meet the new provincial regulations. The impetus for these changes was the ‘extensive criticism expressed by teachers and administrators’ (CBE 1985: I–4). This
criticism included seven ‘technical concerns’ about scheduling conflicts, inadequate testing supplies, and so forth. It also included eight ‘general concerns’ about such matters as the burden testing places on all participants, the inadequacy of the mathematics tests, perceived inconsistencies in test administration, inadequate assistance in testing, and the non-specificity or inadequate coverage of the tests. Of these 15 concerns listed by the Board (CBE 1985: I–13), only one refers explicitly to the appropriateness or meaning of standardized testing. This is the last one, which questions the meaning of comparisons to published norms at the system level. The remainder of the concerns relate only to the effectiveness, adequacy, and mechanics of the procedures used to conduct the tests.

In 1994, the provincial government again decided that it was time to improve the testing programme. The reason for this decision, according to Alberta Learning (2000b), was that educators and administrators were paying too little attention to the examinations, the results of testing in any one subject being available only every 4th year. The ministry, therefore, expanded the testing programme to administer all the examinations every year. The tests included mathematics and language arts in grade 6, and mathematics, language arts, science, and social studies in grade 9, together with the grade 12 diploma examinations. The diploma examinations were also expanded to include more subjects, such as ‘Math 33’, a mathematics course for those students who did not intend to go to university. This was the first major intervention in standardized testing by the Klein (Progressive Conservative) government, which was elected in 1993. Until 1997, the testing was conducted in June, at the end of each academic year. However, in that year additional sittings were introduced in November and April to address the needs of students who completed courses at times other than in June.

From the very beginning of the programme, the minister had released testing results to the public after each sitting. When November and April sittings were introduced, Alberta Learning (2000b) negotiated an agreement with the ATA to have results released on an annual basis only. This dealt with the probability that some sittings would have a skewed profile of students. For example, if all the International Baccalaureate students at a given school were to write an examination at one time, the test results of the school would, one assumes, be inflated for that sitting. This would cause inaccurate interpretation of test results, and could generate what one staff member at Alberta Learning (2000b) referred to as ‘undue attention’.

Analysis and discussion

Understanding the chronology

Standardized testing has gone through periods of ascendancy and decline in education (Wilbrink 1997), and Alberta is shown to be no exception. Our chronology reveals an expansion of standardized testing in Alberta: government commissions are appointed, legislation enacted, testing begun, testing made compulsory, and testing increased in frequency, all accompanied by higher and higher levels of aggregation of the testing results.
However, the expansion is irregular, as government members, school authorities, and teachers contend with each other over the meaning and purpose of testing. This irregular expansion of both the sites and modes of testing is just the sort of discontinuous development Foucault perceived in the evolution of modern government (Miller and Rose 1990). Standardized testing is a paradigmatic tool for modern government.

The latter years of the chronology are played out against a peculiar political backdrop: the efforts by the Progressive Conservative government to apply free-market solutions to the education system. The gradual shift towards public and professional acceptance of standardized testing has been spurred by the provincial government’s move to open up the school system to competition (Taylor 2001). According to Alberta Learning (2000b), the School Act was amended in 1994 to allow parents to choose which of the two school systems, public or Catholic, their children would attend, subject to space being available. Students would no longer be constrained to the system in which they were considered resident. By the late 1990s, parents were able to choose from a variety of educational providers for their children, including public schools, Catholic schools, charter schools, private schools, and home schooling.

The use of a market solution for education is an interesting topic in its own right, but its importance for this discussion is the way that market forces pull the numerical results of testing into action, giving them instant legitimacy and bypassing further debate on the validity of the testing itself. Parents are given a ‘choice’—that is, they are told that the school system is problematic, that there are alternatives, and that the alternatives are significantly different. The results of standardized testing, widely publicized with full-page lists ranking schools by their average test scores (e.g. Edmonton Journal 1999, Calgary Herald 2000), are used to substantiate this argument. According to Calgary newspaper reports, parents are now using, and being encouraged to use, the published results of standardized testing when choosing a school for their children (Smith 2001, Derworiz 2002).5 This gives de facto legitimacy to the numbers. They matter, in a very practical way.

The power of numericizing student and teacher behaviour lies in the way subsequent decisions are shaped. Seemingly innocent choices early on in the quantification process have far-reaching effects. The choice of which subjects to measure, for example, generates an (un)intended emphasis on the tested subjects in every school, at the expense of other subjects. With the visibility given to test results, teachers are pressured into placing undue emphasis on those aspects that are measurable with the test instruments.6 For example, teachers’ representatives express the concern that teachers are pressured into spending class-time running through practice examinations and explaining techniques for improving scores on multiple-choice questions, at the expense of ‘the best pedagogy’ (Unland 2000). If these practices boost a school’s aggregate score, then those parents who use the measurements to select a school may unintentionally send their children to teachers who do not use ‘the best pedagogy’.

This cascading effect of early decisions goes back, in its chain of causality, even beyond the decision on which subjects to test. Before the
decision on subjects comes the decision to test at all, and before the decision to test at all comes the acceptance that there is in fact a problem that will benefit from the application of a test. The process of acceptance, among the agents of government and at a wider societal level, that there is in fact such a problem, Foucault (1984d: 389–390) characterizes as ‘problemization’, or more commonly among Foucauldians, problematizing. This is more than the identification of the problem. It is the creation of the conditions for intervention, the generation of a consensus that ‘something must be done’, the fabrication of will.

In 1976, the Alberta government problematized one aspect of education when it set up the MACOSA commission. The particular aspect in question was student achievement. This view of the ‘problem’ has been in ascendancy ever since. For example, in 2000 the Alberta Learning (2000a: 2) web-site indicated that:

The purpose of the Achievement Testing Programme is to

- determine if students are learning what they are expected to learn,
- report to Albertans how well students have achieved provincial standards at given points in their schooling, and
- assist schools, authorities, and the province in monitoring and improving student learning.

There are several interesting statements here. Besides the implicit institutionalization of a monitoring role for the province and its agents, there is the ‘what’ that is to be learned, and the assumption that the learning of this ‘what’ can be measured and tested. A new reality is created by the achievement testing programme. As Rose (1991: 676) comments, ‘... the collection and aggregation of numbers participates in the fabrication of a “clearing” within which thought and action can occur’. The outcome of the testing programme will be the opportunity to review the results and to sort, sift, and classify students, thereby enrolling students, teachers, and other participants into a specific set of power relations (Foucault 1984a: 204). The Alberta Learning (2000a: 2) web-site on the use of standardized testing results is explicit about this outcome:

Careful examination and interpretation of the results can help reveal areas of relative strength and weakness in student achievement. Teachers and administrators can use this information in planning and delivering relevant and effective instruction in relation to learning outcomes in the Programmes of Study. . . . [M]any factors contribute to student achievement. Personnel at the authority and school levels are in the best position to appropriately interpret, use, and communicate school authority and school results in the local context.

The necessity of using authorized experts (Foucault 1984a: 198) to ‘appropriately interpret, use, and communicate’ test results is explicit here. The average citizen is considered by Alberta Learning to be incompetent to understand the test results unaided. And perhaps this is very likely. The tests are, after all, sophisticated, and their practice, delivery, and application highly refined. This distancing of the citizen from government, this
intermediation of experts poring over numbers, happens through a series of steps: the human at the school desk is first postulated as a learner, then learning is postulated as content-driven, then content mastery is somehow measured, the measurement aggregated repeatedly and then published, allowing the aggregate—itself a product of complicated statistical methods—to be debated in public and its implications explicated with the help of ‘personnel at the authority and school levels’. These explications generate a derivative debate of their own, and the entire debate serves to modulate the behaviour of teachers, administrators, and perhaps even students.

The fascinating thing about this process is that it does not require the intervention of any single government mandarin or elected official (compare Preston et al. (1997) on the US health-care system). A representative of the government ministry announces the results, but this is pro forma. No human presence is really necessary, because the results could be leaked unofficially or automatically published on a web-page with equal effectiveness. The hard work is done by the diverse web of agents that includes school administrators, teachers, the media, and the parents in their official capacities as school system participants. All these agents are enlisted to work in a roughly aligned pattern of interests. As Miller and Rose (1990: 10) comment, this is the power of modern forms of governance.

Every step in this process of governance is ostensibly benign. The child at the school desk is postulated as a learner, but this is only reasonable—after all, this is a school. Mastery of content is measured, but how else could the process work? For if the entire process is predicated on communicating information about the school system, some sort of measurement would seem to be necessary. The benign nature of these steps, the essential reasonableness of the process, is quite disarming. However, each step leading up to the public debate is reductionist and abstractive. The child at the school desk is much more than a learner, but the essentializing postulation reduces the person to the role. The process of measurement, by MACOSA’s own admission, can only deal with those objectives of the education system that are cognitive, because ‘only objectives measurable by means of pencil and paper tests could be included’ (Alberta Education 1979: 10). Furthermore, the act of measurement transforms these complex cognitive attributes into raw numbers. These are aggregated into school and district totals and averages. This series of steps abstracts information from reality, which gets reduced to a sequence of digits. This sequence of digits becomes the topic of the debate. When this happens, much of the public discourse gets diverted and diffused. No matter how much heat a debate about a particular test result may generate, the debate in the end is about testing, and not about education. Discourse about methods is substituted for discourse about values.

Governing the individual

Learning to submit to instruction and testing, to sit still at a desk for hours each day, to depend upon an institution (Illich 1971), and to adjust one’s behaviour to produce socially acceptable results are all by-products of the
modern education system that produces not just educated graduates, but
docile citizens (Foucault 1984a: 197). These are the effects to which testing
contributes, and, as Foucault described, they are directed primarily towards
the examinee. We suggest, however, that by connecting Foucault’s under-
standing of examination to his more general concept of governmentality, we
can see how examinations also construct and discipline other participants in
the examination process. Elected representatives, government bureaucrats,
local school board trustees, principals, teachers, parents, taxpayers—all of
these, and not just the student—are subjected to measurement when the
student is examined. All those who play a role in the educational institution
are held accountable and disciplined by standardized testing and the ways in
which test results are used. This is as true of standardized test scores as it is
of the budgets of school districts, for example. Whenever measurements are
made, and results are aggregated, compared, and publicized, the result is the
same: those who are the subjects of these measurements are revealed in their
attributes, and they, therefore, adjust their behaviour towards the group
norm. As Foucault (1984b: 195) points out, this happens regardless of
whether the standard of measurement is regarded as a minimal threshold (as
in criterion-referenced testing), as an average to cluster around (as in norm-
referenced testing), or as an optimum to be striven for.

Why do the participants adjust their behaviour as a result of standar-
dized testing? Unlike the examinee, for whom the examination itself is
crucial, the other participants are disciplined by the way testing results are
used. In part, the participants adjust their behaviour because these tools of
governmentality operate invisibly. Participants do not know if, when, how or
by whom the numbers will be used. Although every student knows when the
testing happens—just as every school administrator knows when it is time to
submit a budget for approval—once the aggregated results of these
procedures are published they are no longer aware of how or when the
results may be used. Foucault (1984c: 211) refers to this as the ‘panoptic
modality of power’, in that it is impossible to know when or even if the
numerical traces will be used. It is this invisibility of potential users and
usages that disciplines participants. Furthermore, resistance to any such use
is impossible, because one cannot say who is using what, and why, or when.
Thus, the operation of this disciplinary power stands in contrast to the
operation of sovereign power, such as military might. With sovereign power,
it is the sovereign who is revealed. With disciplinary power, it is the subject
who is revealed (p. 209).

Examinations, besides producing these external disciplinary effects,
also encourage the internalization of disciplining activities (Rabinow 1984:
19), particularly in the case of the examinee. Students classified by testing
mechanisms as ‘above average’ and ‘below average’ often internalize these
assessments and reproduce them in subsequent behaviours (Hanson 1993:
3–4). We suspect a similar effect occurs with the teachers and admin-
istrators of a school that has been revealed by its aggregate results to be
exceptionally ‘good’ or ‘bad’, but this effect may be mediated or mitigated
by group membership and collective responsibility for the result. Nonethe-
less, as Dean (1994: 195) comments, ‘the subject is never given to itself,
but formed, organized, shaped and indeed dislocated within diverse
modalities of practice’. Thus, the internalization of external assessments and classifications may amplify the effects of these disciplinary practices (Rabinow 1984: 11).

How else does the behaviour of the individual get shaped by these governance processes? Another part of the answer lies in the progressive mutation, in our society, of the citizen into the consumer (Slater 1997). Microeconomic theory, applied to education, would have each consumption unit (student, or perhaps parent) participating through self-interest in a free market for educational services provided by independent production units—i.e. teachers, within the school context; schools, and boards within wider contexts (Anderson et al. 1997: 8). The forces of the market, in this theory, ensure that the producers are acting in the most efficient manner (Hanushek and Jorgenson 1996). This, it is hoped, is consistent with the best education, or at least with the best education possible given ‘scarce’ resources.7

Microeconomic theory is also predicated on the free flow of information, so the role of standardized testing in providing the information is fundamental. However, standardized testing not only provides the information, but, because of its deeply rooted causality, also selects the information. Nonetheless, the microeconomic model of education functions as expected: some parents do, in fact, choose to send their children to certain schools and not to others, based on the comparative results of these tests.

Microeconomics, the politics of self-interest, and the implied commodification of education are quite external, quite interpersonal, in their regulatory effect. They share, however, with the broad methods of governmentality, the additional capacity to regulate behaviour from within, to generate autonomous self-regulation in the social actor. This applies to all the actors in the process, from the minister of education down to the student, as there is no discontinuity between the governed and the government: Machiavelli saw the prince and the principality as distinct, but government has been recognized as continuous with its own population since the 16th century (Foucault 1991a: 91).

Self-regulation occurs by virtue of a norming process whereby the power of societal norms is internalized by educational system participants (Foucault 1984a: 196). The expectations of power, operating on and through the government and its agents, are expressed indirectly by these tools and methods that imply acceptable behaviour. What gets measured gets done. The publication of the results not only informs the electorate and other audiences, but builds pressure to conform (Simner 2000). This pressure arises within the individual as much as it does within peer and non-peer relationships. The result is not that behaviour is legislated, but that standardized testing encourages participants to internalize societal norms and to participate in the construction of themselves as subjects (Dean 1994: 195).

\textit{Side-effects}

One of the features of this diffuse method of social control is that it produces side-effects, which may or may not be intended. These side-effects include
the alleged gender and racial biases of standardized testing (Haney 2000). When the results of standardized testing differ for various gender, racial, and socio-economic groups in society, considerable attention is devoted to interpreting such results. Questions are raised about the inherent bias of the testing on socio-economic grounds (Sacks 1999). The evidence suggests that students from stronger socio-economic backgrounds do better on the tests than do students from poorer backgrounds or members of visible minorities. Are these results due to advantageous educational practices available only to the rich? Are they due to unfair construction of test methods and questions? Do they have the effect of exacerbating and reinforcing existing socio-economic differentials, as successful students reap the rewards of successfully negotiating the barriers to higher education (Bourdieu 1984)?

These are tough questions and they need to be pursued vigorously. However, sometimes the side-effects are more subtle and seemingly innocuous. Consider this excerpt from a report by the superintendent of the largest school board in Alberta (CBE) to the trustees of that board about an arts-infusion project:

This project will focus on infusing the arts in curriculum. Recent brain, multiple intelligence and learning styles research will be used to inform the work of this project. An educational researcher/artist will co-ordinate the planning and programme development for artists and teachers. This work will include the facilitation of staff development and parent education. Students will benefit from having meaningful and satisfying learning opportunities that will prepare them for their futures, that will see their provincial achievement test scores improve and that will create for them a collaborative, interdependent, and democratic learning environment. (CBE 2000b: 2)

The arts-infusion project being discussed is justified in part because it will help students improve their provincial achievement test scores. However, there is no test of the arts among the provincial achievement tests. The pervasive influence of the standardized testing programme is evident here. Even those subjects that are ignored, for methodological reasons, by standardized testing, come under its sway. Pedagogically sound, culturally rich projects no longer stand on their own merits, but must fight for attention by being shown to support those behaviours that are being measured. This is an appeal to the enlightened self-interest of the trustees. It helps adjust their behaviour to cluster around the norm.

**Summing up**

*Reinterpreting a technology of government*

If it takes a public pillorying by way of poor test results to force schools to admit their failings, and to correct them, then let the school day be filled with exams. (London Free Press editorial, quoted in Simner 2000)

We are entering the age of the infinite examination and of compulsory objectification. (Foucault 1984a: 200)
Our analysis contributes to the debate on standardized testing in three ways. First, it shows that the current practices and purposes of standardized testing—at least in one specific jurisdiction—are merely the most recent in a sequence of reinterpretations of testing. Much of the debate over standardized testing, especially popular media presentations, ignores the history of standardized testing, and implicitly accepts current practices and problem definitions as given.

Second, our analysis describes how standardized testing, as a tool of government, rests on a series of conceptual translations and calculations. Arguments for and against standardized testing are often presented as if such testing were simply a tool of accountability. This perspective ignores the series of translations—from the private individual to the aggregated, publicized number—that are necessary to arrive at such a construction of standardized testing. By unpacking these translations and by situating them within the ‘will to govern’, the current study provides a history of the present. And, although the specific calculations are likely to differ across jurisdictions, we think that this analysis of standardized testing may help others to understand the uses of standardized testing in other jurisdictions (Dehli 1996).

Third, our analysis proposes that standardized testing be viewed as but one strategy of governance. The increasing usage of funding mechanisms (Rowan and Miskel 1999, Neu and Taylor 2000) and other administrative mechanisms for ‘steering at a distance’ (Whitty et al. 1998) within the education systems of industrialized countries is consistent with the move to governance based on panoptic modalities of power (Foucault 1984c: 211). For example, in the Alberta context, comparative financial information regarding the different school districts is now available on the Web. As with standardized testing scores, it matters little how the government actually uses such information. Simply collecting it and publishing it means that anyone can observe, indirectly, the actions and choices of educators. As with the publication of standardized testing results, this generates self-discipline because no one in the system knows where or when criticism of one’s actions might arise.

Finally, we suggest that our analysis also contributes to Foucauldian studies. It shows that Foucault’s concepts and methods can be applied to jurisdictions and government sites that differ from the centralized French state familiar to Foucault. The Alberta education system, with its network of agents operating in decentralized institutions, provides an interesting example of government at a distance. Foucault described how examinations produce conformity in the examinee. We suggest that, within the decentralized setting of Alberta education, standardized testing induces self-governance, not just in the students who are examined, but in all participants in the education system. Nonetheless, the chronology examined here suggests that the use of technologies such as standardized testing for implementing ‘political rationalities’ (Miller and Rose 1990: 8) is not as straightforward in the Alberta setting as it might be in France. In particular, the many independent or quasi-independent voices in Alberta that grab hold of standardized testing results make for a complex discursive field. The voices of the Fraser Institute (a private Canadian organization advocating
market solutions in public policy) and the ATA, for example, sometimes echo and sometimes contradict official government interpretations of the purposes and results of standardized testing. For this reason, the ‘tools of government’ in Alberta operate in ways that appear to be even less deterministic than Foucault might suggest.

None of these contributions should be construed to suggest that standardized testing is the only aspect of Alberta’s education system that helps produce governable persons. The entire bureaucratic apparatus of the education system serves to constrain and enable those who work in it, and provides a context for classroom experiences that must always be considered when examining the way students are ‘produced’ by mass education in Alberta. However, standardized testing is not just an indistinguishable part of the current school system, but is singularly talismanic and controversial. The effects of standardized testing are distinct from the more general impingements of bureaucracy on people in the school system. Standardized testing applies to all students in Alberta, even those who are taught in small private schools, charter schools, and home schools well removed from the larger bureaucracies of public education. Furthermore, the effects of standardized testing belie the claims that are made about such testing. Far from being merely a ‘neutral’ mechanism for measuring student achievement or teacher effectiveness, standardized testing helps align teachers, administrators, and even parents with such government goals as cost reduction and the vocational orientation of education in Alberta.

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Notes

1. Our overview of Foucault’s work on governmentality and the related work of others is intended only to frame the arguments at hand. For broader introductions to the work of Foucault, see Burchell *et al.* (1991) and Dean (1994). Although several authors (e.g. Curtis 1995, Schrag 1999) have been critical of Foucault, we think that his analysis of the development of governmentality provides a way to understand the emergence of standardized testing, and to situate this emergence within the more general societal movements to techniques of governance.

2. For example, Haney’s (2000) paper on the Texas Assessment of Academic Skills (TAAS) devotes considerable space to discussing the numerical and statistical methods of the Texas testing regime. Consider also the comments of a Texas state attorney regarding Haney’s participation in a lawsuit over alleged racial bias in TAAS. The attorney said, ‘One is that their numbers are flawed. But clearly, the issue is what’s happening to the numbers during the period the TAAS has been in place’ (quoted in Balli 1999). Although the attorney is evidently concerned with what has ‘happened’ to the numbers, one has no way of knowing how this is ‘clearly’ the issue for anyone else. Education is abstracted and reduced, through testing, into highly aggregated numbers. The substance of the lawsuit may be racism in education, but the battle is over statistics.
3. The fourth term of reference, 4.4, is not quoted here. It deals with the mechanics of any studies MACOSA might commission.

4. We are indebted to an anonymous reviewer for directing our attention to Hanson’s work.

5. A self-professed ‘Alberta-based parent and community-orientated educational consulting and research service’, SchoolWorks!, republishes the results of the standardized testing as part of their School Information Guide. The explicit goals of this guide include facilitating parental choices about which schools their children should attend. The on-line introduction to this guide (SchoolWorks! 2002) states:

   School accountability and greater choice in schools and school programmes are changing the face of public education. In the past, children from the community would naturally attend their neighbourhood school. However, with the funding following the student, open school boundaries, and the public’s concern with educational standards, the accepted pattern of students attending their neighbourhood school is no longer the norm.

   With individual schools becoming more competitive in attracting students to their programmes, parents/guardians are faced with the difficult task of identifying the best school for their children. As public education becomes more consumer driven, the consumers—i.e. parents/guardians, students etc.—are asking for more information that they can use to compare schools and their programmes.

   Based on ‘effective schools’ research and our own field experiences with parents/guardians, we, at SchoolWorks!, have created The School Information Guide©. This practical guide stresses both product and process. Therefore, as parents/guardians work through this guide they will not only benefit from the results obtained but also from the processes of personally collecting information from schools. Increased involvement in this process will provide parents/guardians with additional information resulting in more informed choices.

6. Archived copies of grade 3, 6, and 9 Alberta achievement tests (Alberta Learning 2001) show that the questions on social studies and science examinations are exclusively multiple-choice. Mathematics tests are largely multiple-choice, with a small number of numerical response questions. Six out of 50 questions on the grade-9 mathematics test were numerical response. The remaining questions, and all questions on the grade-3 and grade-6 mathematics tests, were multiple-choice. English tests include multiple-choice questions, an essay-writing question, and, for grade 9, an additional question requiring the student to write a business letter and address an envelope.

7. Scarce resources are a necessary assumption of microeconomic theory. Part of the function of the education system is to impose a regime of scarcity (Illich 1978). The ability to teach children, for example, appears to be widely distributed, as the home-schooling phenomenon demonstrates. However, when almost all parents work outside of the home for wages, and teaching is delegated to credentialled professional educators, the ability to teach children is redefined in our society as a scarce resource. All the resources required for education are subject to the power of money, the scarcity of which can be controlled explicitly by the financial practices of government; money serving as a proxy for all other resources.

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