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Educational Data at Late Nineteenth- and Early Twentieth- Century International Expositions: 'accomplished results' and 'instruments and apparatuses'

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SUMMARY This chapter proposes that the education exhibits at international expositions (or world's fairs) played a significant role in the rise of data in education. Exhibits were carefully executed presentations of a country's education system and examining this history sheds light on many of the tensions and issues that surround the production and circulation of education data today.

Here may be compared the systems of countries many thousands of miles apart, the systems developed under autocratic and republican rule, denominational systems with those of the state, all grouped within a few thousand yards of space, and yet presenting a clearer illustration of methods, appliances, and results than could be obtained from an extended tour of the world. (Bancroft, 1893, p. 252)

In his description of the education exhibits at the 1893 World's Columbian Exposition, Robert H. Bancroft, author of the Chicago Fair's official history, lays out a key dimension of producing educational data: the rendering visible and comparable of education processes and practices that otherwise would remain obscured. By bringing the distant and disparate into the same space and onto the same plane of visibility, the international expositions of the late nineteenth and early twentieth centuries generated the matrices of comparative gestures that so powerfully informed the 'reflexive modernization' endeavors of the era. It is widely recognized by scholars that the international expositions of the late nineteenth and early twentieth centuries were important sites where cultural behaviors and expectations

were formulated and policed – and also that the expositions played an important role in the development of ‘modern’ social and institutional structures, inclusive of schooling (Sobel, 2004; Lawn, 2009; Dittich, 2010, 2013). In this chapter I argue that the education exhibits at international expositions (or world’s fairs) played a significant role in the rise of data in education. Examining this history sheds light on many of the tensions and issues that currently surround the production and circulation of education data, particularly the international comparative dimensions of education data.

As is indicated by Bancroft’s synopsis, education exhibits at international expositions tended to be very carefully executed presentations of a country’s (or a particular unit/sector’s) education systems. The exhibits can be usefully understood as a platform for translating information about an education system to external audiences. The quest was to present a ‘clear illustration’; and, as I will discuss below, a considerable amount of energy and time was spent to establish what would actually be the best ways to present or demonstrate an education system. In this respect, it is quite appropriate to consider an education exhibit at an exposition to be a form of ‘data’. Figure 1 shows an engraving of the Ontario exhibit that was presented at the 1876 Centennial International Exposition in Philadelphia that – with its glass vitrines, model buildings, pictures, wall posters and other artifacts – is representative of many education exhibits.

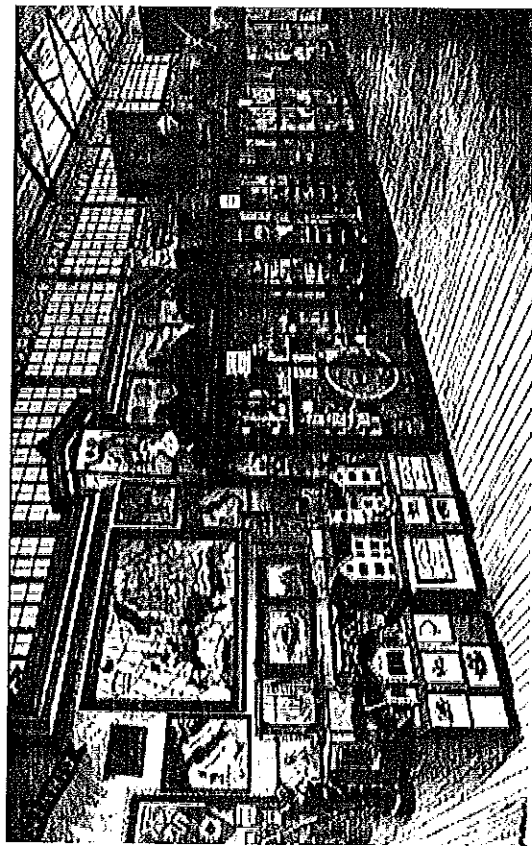


Figure 1. Engraving of Ontario exhibit at 1876 Centennial International Exposition.

To begin with, what was presented in the several hundred square feet of exhibition hall space was carefully selected. Frequently we can establish a carefully thought-through translation sequence where artifacts and discrete bits of evidence were gathered, distilled or synthesized in some manner and then presented according to particular criteria. The focus of this chapter is on the ‘rules’ that governed these educational displays.

Almost uniformly, the organizers of the major late nineteenth-/early twentieth-century expositions specified in advance very specific ‘research protocols’ that were to guide exhibitors in preparing their displays. At the same time, different exhibitors jockeyed with each other – both within a given exposition and across different expositions as they followed one another over the years – to present the most convincing, most reliable and most scientific illustrations of their education systems. These displays played an important role in the early history of the growth of education data and in fact in my conclusion I suggest that there is considerable value to conceptualizing the contemporary production of education data as itself a kind of ‘exhibitionary’ practice.

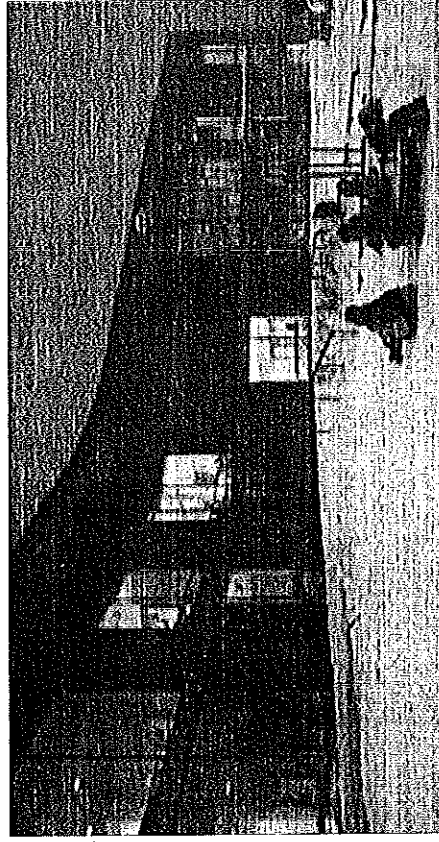
The confident and assured ‘here may be compared’ that Bancroft applied to the 1893 exhibit halls echoes today as the prefatory assumption (implicit or explicit) whenever the results of an international assessment like PISA or TIMSS are published. This also holds for league tables and international rankings, which – the fact they are disputed and debated notwithstanding – also typically operate on the assumption that a reliable space for accurate comparisons can be constructed. The simplification and clarification of the messiness of lived human realities is an enduring aspect of producing data, something we see in Bancroft’s assertion that a visit to the Chicago exhibit halls could produce a ‘clearer illustration’ than ‘could be obtained from an extended tour of the world’ (1893, p. 252). The clarity of the illustration was particularly valuable because of the general point that a shared, smoothed-out space of visibility affords the identification of differences. In the 1893 exhibit hall this space of visibility was a material and built discursive space. At the Chicago Exposition, Bancroft proposed, education systems could be tracked to different ideological and political positions (authoritarian/republican rule, or different denominational systems). By contrast, the smoothed-out spaces of international comparative visibility of today tend to be, like the OECD spreadsheet, the largely non-physical discursive space of printed pages or PDF files. Quite often these contemporary ‘spaces’ attract observers because they allow for education systems to be tracked to different organizational and economic arrangements: schools can be compared in terms of their financing, their governance and autonomy but also in relation to national economic wealth and socio-economic equity concerns as well as the (in)famous variable of ‘success in the global economy’. The significance of this difference notwithstanding, we see an interesting continuity in that the opening up of a space of visibility and

comparison allows for a series of distinctions to be generated and putative 'best practices' to be identified.

Yet, precisely *what* was being displayed and compared remained an unsettled matter at the end of the nineteenth and early twentieth centuries. Bancroft refers to the Chicago education exhibits as illustrating 'methods, appliances, and results' (1893, p. 252). Both at Chicago and at other expositions there was considerable debate on the curatorial and exhibitionary conventions that should specify how a given school system would be presented. One of the key recurring tensions was the question of how one would present data on - what might be referred to in an industrial or economic idiom as - the 'inputs' and 'outputs' of a given school system. In an official UK report on the Vienna Universal Exhibition of 1873, the British school inspector Reverend James G.C. Fussell opined that 'an educational exhibition is (for the most part at least) an exhibition of appliances and instruments, rather than accomplished results' (1874, p. 239). Yet we find - as is in fact suggested by Fussell's 'for the most part at least' hedging - that across the period under examination here, there were notable oscillations and contestations around the question of whether an education exhibit should feature 'accomplished results' or 'appliances and instruments'. In terms of the former, educators typically turned to student work samples or surveys of educators. What were the appropriate and consequential 'appliances and instruments' to show ran the gamut, as Figure 1 shows to some extent. Exhibits might showcase schoolhouse architecture, design, and ventilation systems; textbooks and other printed matter; globes, maps and other didactic devices; school desks and other items of furniture; as well as maps, charts, graphs, and posters that illustrated various educational aspects such as teacher training, the provisions for centralized and/or local administrative supervision, the geographic distribution of schools, and so forth. Below, with a general but not exclusive focus on US education exhibits, I range across a number of different expositions (from the Vienna exhibition of 1873, through the expositions at Philadelphia 1876, Paris 1889, Chicago 1893, Paris 1900, St Louis 1904, and San Francisco 1915) with the purpose of exploring how the curatorial principles that guided the education exhibits were developed and debated. The 50-year timespan considered here is in part warranted by the extraordinary degree of referentiality from one exposition to the next (Sobe, 2007; Sobe & Rackers, 2009). It was common for nations' 'performances' to be compared with their showings at previous expositions - so much so that exhibit planners themselves were frequently trying to remedy and improve on criticisms levied at the previous expositions. Thus, it makes sense to consider the expositions of this period as an ongoing conversation. We also do find some notable trends and shifts in whether to display 'accomplished results' or 'appliances and instruments'. However, there does not appear to have been a decisive resolution of this question in the period I am examining here.

From a contemporary perspective - as frequently bombarded as we are by the results of international assessments - it is tempting to conclude that in today's day and age this debate has been settled on the side of 'accomplished results'. Administer an identical standardized test to students whether they are under authoritarian or republican rule and regardless of the denomination of their school and we can rather reliably, the thinking goes, ascertain which system produces the best results. This is certainly how PISA and TIMSS results are often discussed.

Yet, as the pilgrimages to Finland of the last decade have demonstrated, educators, researchers, and policymakers must still probe and debate the 'appliances and instruments' that have allegedly led to Finland's apparent success on a recent series of international assessments. This is particularly well illustrated in the United States where the architectural design of Finnish schools has become a particular object of fascination as of late. An exhibit of Finnish school architecture, originally mounted at the Museum of Finnish Architecture in Helsinki in 2011, in 2012 traveled to the United States and was mounted at the Finnish Embassy in Washington, DC, as well as at the American Institute of Architects' Center for Architecture in New York City (Sparks, 2012). Images from this exhibit and the accompanying book (Kasvio, 2011) were used, for example, to illustrate an article by Diane Ravitch (2012) on Finnish education that appeared in the *New York Review of Books* (see Figure 2).



The Keskisuomalainen School in Espoo, Finland, which accompanied about 700 teachers and other visitors to the school for one week, from the Museum of Finnish Architecture's exhibition 'The Best School in the World: Seven Finnish Examples from the 21st Century', which was held at the American Institute of Architects' Center for Architecture in New York City in 2011.

Figure 2. Contemporary Finnish School architecture photograph accompanying 2012 Diane Ravitch article on education in Finland.

The title of Ravitch's article, 'Schools We Can Envy', as well as the alluring and entrancing photographs of the exhibit, uncannily echo the education

exhibiting of the late nineteenth- and early twentieth-century international expositions. We can view the Finnish school architecture exhibit as a very deliberate production, dissemination, and consumption of data about schooling. And importantly in this instance, the data has all to do with 'appliances and instruments', i.e. those elements (here, architecture) that help to produce Finland's educational success. Thus, one overarching argument of this chapter is that there is an essential making-things-visible dimension to the production of education data. And, that this includes an interest in attempting to make visible the operational techniques and practices of schooling. Of course, the influence and importance of student test results as the premier education data of our present day and age are undeniable. Yet, this fixation on 'outcomes' is still accompanied by an interest in making visible the workings of school systems that powerfully evokes the vitrines and exhibit halls of the international expositions of the late nineteenth and early twentieth centuries.

Producing Data on the Results and Processes of Education

At the 1876 Centennial Exposition in Philadelphia, one Canadian observer commented that the education exhibits could be characterized as either chiefly consisting of the 'results' of education, or of the 'appliance' of education, or those which combined the two. John George Hodgins, the Deputy Minister of Education for the province of Ontario, noted that Ontario's own exhibit was unique in that it nearly entirely consisted of educational appliances. Other countries, such as Russia, Switzerland, Belgium, and Japan, combined appliances and results in various ways, while the American exhibits focused on results, which Hodgins explained as consisting of 'examples of pupil's work, with large and valuable collections of educational reports and illustrative statistics' (1877, p. 14). This consistency in the exhibitions of various US states was hardly an accident, for during the exposition's planning stages the US Bureau of Education had orchestrated over two years of planning meetings and in November 1875 published a 'Schedule for the Preparation of Students Work for the Centennial Exposition', the first of several circulars issued to provide guidelines for the American exhibitors (Bureau of Education, 1875b).

The major exhibiting US states in 1876 were largely New England and from the Upper Midwest - Massachusetts, New Jersey, Connecticut, Rhode Island, New Hampshire, Illinois, Indiana, Michigan, Iowa - with minor exhibits coming from Maryland, Kentucky, Missouri, Tennessee, Maine, Minnesota, and Wisconsin. At a meeting of state superintendents in Washington, DC at the end of January 1875, John Wickersham of Pennsylvania laid out the stakes for the American exhibits at the coming year's exposition in Philadelphia, which was to be the first international exposition in the United States. He opined that, partly due to the success of the American school house exhibited at the Paris exposition in 1867, foreign

visitors would come to the Centennial Exposition with a special interest in US education. An exhibit on US soil would be a severe test, he opined. 'Germany, Austria, Switzerland, France, England, Belgium, and Holland will come, doubtless, prepared to submit their systems of public instruction to a comparison with our own', and Americans 'must be ready to meet them with the best we have' (Bureau of Education, 1875a, p. 57). Wickersham called for the exposition to be a 'full, fair, and systematic representation of American education', and he noted that it would be easy to

fill our space with the ten thousand articles that may be offered.

Material could be had for the asking, I doubt not, sufficient in bulk to fill the whole Exposition-building. A huge mass of miscellaneous articles, with endless repetitions and duplicates even though they could be arranged to look well to the inartistic or unprofessional eye, is not what is wanted. (Bureau of Education, 1875a, p. 59)

Instead, he called for a display that would be 'something of an organism, with its several parts nicely adjusted, if not closely related, to one another' (p. 59). For many countries across the globe, the last three decades of the nineteenth century were a period of intense systemization in the education arena (Müller et al, 1987). In the USA this was also the period when a national education system began to be consolidated, which helps to explain the emphasis on presenting a careful coherent representation of American education.

To accomplish this, the Bureau of Education developed a uniform plan that, among other things, proposed that the US exhibits include student 'examination-manuscripts prepared according to certain prescribed rules' (Bureau of Education, 1875b, p. 8). Few details were left unattended to. The paper used was recommended to be 8 1/4 by 10 1/2 inches in its dimensions; the questions were to be written or printed directly above each answer; each student was to write his or her age, grade, and school name at the head of each manuscript section, and conclude each section with a handwritten statement, 'this accompanying manuscript was written by myself, without aid from any source' (p. 9), followed by a signature. Utmost care was to be taken that the exam questions not be leaked and that only the students who were actually enrolled in the institution took the exams. Though the questions on these work samples were not pre-specified, there was national standardization in that work samples were to be collected between 1 and 15 February, with no more than four hours allowed for students to write on each academic area. According to national planners, in addition to 'properly displaying American education on an international stage, these efforts would also have domestic benefits in affording 'an opportunity for the public schools of towns and cities and separate institutions of learning of every grade to compare their own work with the work of others, performed under like conditions' (p. 8).

Various state reports on the 1876 Centennial show that these national protocols were widely disseminated and passed along verbatim to districts

and to individual schools. This spirit of standardization was also something that states internalized and made their own. Illinois organizers, for example, also provided very specific criteria for the preparation of school models and photographs. Illinois school districts were asked to furnish maps of school grounds in a scale of 200 feet to the inch and building floor plans in a scale of 24 feet to the inch. In taking photographs of school exteriors, Illinois schools were directed that:

it is important to show enough of the grounds and out-houses to give a correct impression of them. In all cases there should be a collection of pupils in the foreground, so arranged as not to interfere with the view of the building and grounds; pupils to be dressed in every-day attire, and showing all ranks, ages and conditions; some of them being near enough in the foreground to show distinctly their features. (Superintendent of Public Instruction, Illinois, 1877, pp. 386-387)

Additionally, the margin of each photograph was to include information on the cost of the building, the school name, its location (town and county), the building's dimensions, as well as its numbers of students and teachers. Such a level of detail characterizes many of the documents that provided guidance on what and how items should be collected for display at the international exhibitions. Standardization to allow for comparison within a unified visual field (not 'a huge mass of miscellaneous articles') is a constantly recurring concern in this literature.

The idea of conducting some form of student assessment specifically to produce data that could be exhibited at an international exposition was by no means unique to Philadelphia. In preparing for the 1893 World's Columbian Exposition in Chicago, the New Jersey Department of Public Instruction issued specific instructions and outlined a process that urged individual cities and counties to first mount their own exhibits as a first step towards preparing/selecting items for the state exhibit in Chicago. The New Jersey organizers emphasized the need for the 'honest' work of pupils; provided specifications on time allotments, the paper to be used, that ink was preferable to pencil, and that the bottom right-hand corner of each page was to include the child's name, grade, and age, with the bottom left-hand corner to feature the city/town, school name, and the date. The teacher was to furnish an accompanying statement that made clear the pedagogical purpose (what in a contemporary idiom might be called the 'learning objectives') associated with the students' work samples. The state organizers specified:

The topic or lesson on which an exhibit is to be made should be one that lends itself readily to such a purpose; it should be typical of the required work of the class or grade, and the result should fairly represent the same. Every exercise should have a separate and distinct end in view from the teacher's stand-point, and the object of the lesson should be made clearly apparent by the pupil's

work. Miscellaneous and objectless work, showing no clearly-defined pedagogical purpose, should have no place in this exhibit. (State Board of Education, New Jersey, 1894, p. 9)

In selecting the work that was to be forwarded to the state to be considered for exhibition in Chicago, New Jersey teachers were directed to choose the best work their students produced.

However, when it came to exactly what kind of student work should be prepared for expositions, preferences varied. Across the various expositions, some organizers advocated for work samples not prepared specially for display. The organizers of Kansas' State Normal School exhibit at the 1893 exposition in Chicago agreed at the outset that they would not display 'show work' but rather would show regular student work produced during regular school operations (Board of World's Fair Managers, Kansas, 1894). Student work shown in Michigan's 1893 exhibit, by the organizers' own admission, was 'collected indiscriminately' and then arranged by subject area and grade level in bound volumes that filled two book cases (Weston, 1899, p. 166).

Beyond inter-national and state-to-state comparisons, exposition educational exhibits also allowed for competitive jockeying among different kinds of schools, Catholic education being perhaps the best example of this. The 1893 World's Columbian Exposition in Chicago featured an extensive Catholic education display that primarily featured US schools but also included - in a fascinating if predictable transnational gesture - Catholic schools from archdioceses around the world. The Catholic education exhibit serves as a useful reminder that the international expositions were multidimensional and accomplished different things for different constituencies. Student work samples were a key feature of the Chicago exhibit since they could be held up to silence critics and overcome prejudice against Catholic education. This becomes quite clear from the Catholic exhibit's own official report (Maurelian, 1894), with its extensive reporting on what visitors and commentators had to say. As in the case of New Jersey described above, much of the material in the Catholic exhibit in Chicago appears to have been initially exhibited in the places where it was first gathered. This served local purposes as we see in a statement of the Bishop of Buffalo, NY, who, in discussing an exhibit that was a lead-up to Chicago, claimed, 'the assertion that our Catholic schools are in the slightest degree below the standard of the secular or State schools would not be made by the most prejudiced observer after viewing this exhibition' (Maurelian, 1894, p. 31). Organizers clearly desired that all visitors to Chicago would reach the same conclusion and student work samples had a key role to play. In a report on the exhibit that was published in the journal *Catholic World* (and in a quintessential example of the phenomenal inter-textual referentiality/'house of mirrors effect' [Sobe & Ortigon, 2009] that accompanied the expositions), John O'Shea quoted the secular German-language Chicago newspaper *Staats Zeitung* as reporting that 'those defective patterns of humanity who are running our public schools' could only exhibit

models of buildings, or their photographs, methods and means bought by the state at a heavy expense, but not the results of the schools, not the proofs of education ... The weakness of the public schools shows all the more forcibly the strength of the Catholic educational institutions at the Expositions. Instead of beautiful building models and costly methods, they have exhibited the practical results of their schools. (O'Shea, 1893, p. 189)

While, as Figure 1 showed above, many exposition education exhibits were tightly packed with all manner of objects, photographs of the Catholic education exhibits in Chicago show a particular density of student work displays. In this instance, presenting the 'results' of education served a particular set of interests, especially as Catholic schools in the late nineteenth century sometimes faced the charge of being less well funded and equipped than public schools.

Across the period treated here, interest in presenting educational outcomes waxed and waned. The Panama-Pacific International Exposition held in San Francisco in 1915 is an interesting case. The chief organizer of the education exhibit hall, Alvin E. Pope, noted in an organizing document, 'we have outgrown the old-style educational display, consisting of comprehensive, duplicate exhibits, composed chiefly of pupils' work' (as quoted in Ryan, 1916, p. 7). Frank Morton Todd, the author of the official history of the San Francisco Exposition, wrote:

The world had outgrown the old-style display of pupil's papers showing how much like the copy book little Johnny and little Mary could write, and what long words they could spell at the age of seven years without getting blots on the paper; for, people were beginning to see that the best spellers did not always turn out to be the best sellers. Moreover, with hard enough drill on the teacher's part it sometimes happened that a blotless prodigy in a most inferior school surpassed the best product of the good institutions. Such exhibits showed nothing valuable, and the public had found it out. (Todd, 1921, pp. 36-37)

In place of student work samples (however produced) the San Francisco organizers invited both American states and foreign countries to highlight those educational activities that they excelled in. In the case of the US exhibits, 'invitations were restricted in order to avoid duplication and special exhibits were so assembled as to portray the salient features of modern American education' (Todd, 1921, p. 37). The central organizing principle of the exhibits of the American states was that each participating state would confine its exhibit to 'one distinct system or process in which he excelled; to one definite lesson which he was capable of teaching the world'. The objective, stated in terms very similar to those used by Wickersham in 1875, was that by having each state select systems or processes in which they excelled, the exhibits of all the states together would add up to a cohesive

display. And in the end, as claimed in the US Bureau of Education's official report, this goal for a 'unified display rather than numerous exhibits' was 'carried out consistently' (Ryan, 1916, p. 6).

In other publications (Sobel, 2004, 2007) I have argued that the recurring juxtaposition of 'numerous exhibits' with a 'unified display' suggests an interest in constructing a coherent visual (and intellectual) field and accords with other features of the San Francisco exposition. A similar discourse emerges with regard to the exposition's architecture and color scheme, all of which betray a preoccupation with new awareness of the manipulability of human perception and the desire to direct this manipulability toward progress and advancement. In the 'new-style' displays in San Francisco's education palace, exhibitors were to present something in which they excelled. In response, to offer several examples, Massachusetts decided to focus its exhibit on vocational secondary education and textile education; New York chose to emphasize the 'centralization of authority' that marked its school system; and, California put forward its school architecture and the use of 'educational motion pictures' as the state's strongest educational features (Egibert, 1915; Massachusetts Board of Panama-Pacific Managers, 1915; New York State Panama-Pacific Exposition Commission, 1916). In short, 1915 witnessed a shift towards 'appliances' or 'instruments' as opposed to 'results' and 'outcomes'. At the same time, the example of the 1915 exposition in San Francisco is a useful reminder not to impose a historical narrative that emphasizes the gradual uni-directional consolidation and inevitable rise to the top of one particular mechanism for producing educational data or another.

Before concluding this brief and episodic review of the curatorial and exhibitionary principles that structured education exhibits at international expositions, it is worth examining two additional mechanisms that were relied upon to produce education data and render visible the workings of schooling. First is the teacher survey, that, at the time, appears to have fitted with relative comfort alongside student work as an acceptable window into student learning. A good example of this is the research study conducted on US kindergarten education in preparation for the 1900 exposition in Paris. In a report written for the official catalogue of the US exhibit, Susan Blow (1900) described a study conducted on Blow's behalf by Laura Fisher, the director of Boston's 69 kindergartens. To attempt to ascertain the results of kindergarten education, all first-grade teachers in Boston were asked to write about whether the children in their classrooms who had attended kindergarten differed from, or advanced more quickly, than those first graders who hadn't attended kindergarten. The researcher received 163 responses and from the report we learn that she went to great lengths to ensure the reliability and validity of her data. From the initial set of responses, 36 letters were eliminated because fewer than 10% of the respondents' first-grade students had attended kindergarten (or attended kindergarten for more than several weeks). Then, of the remaining 127

letters, 25 were deemed unfavorable while 102 were determined to show the positive effects of the kindergarten experience. Fisher's research protocols and procedures bear resemblance to the preceding descriptions of the conventions that were to govern the production of student work samples. And they similarly represent an effort to furnish data that can be used to effect comparisons.

The second additional way that schooling was rendered visible at late nineteenth- and early twentieth-century international expositions was through efforts to present evidence of change in individual students over time. In a circular published in advance of the 1893 World's Columbian Exposition, the chief organizer of the US Bureau of Education exhibit at Chicago, C. Wellman Parks, recommended that 'if possible, some of the earlier work of the same pupils should be shown' (State Board of Education, New Jersey, 1894, p. 9), though it is not clear that many US states followed his advice. However, at Chicago, France - seemingly of its own accord - did present a longitudinal exhibit showing photographs and work samples of a single student who was profiled across his entire elementary and secondary education career (Dittrich, 2010). Nonetheless, the most common way to show student progress and achievement was through the exhibition of actual students and live classrooms.

'Live' educational demonstrations at international expositions took many forms with demonstration kindergarten classrooms probably being the most significant and most often-recurring form. Maria Montessori's methods received a notable launching in the USA when she herself attended and led a demonstration kindergarten at the Panama-Pacific International Exposition in San Francisco in 1915 (see Sobe, 2004, for an extensive discussion). As much as they attempted to showcase progress and modernity, international expositions also - and relatedly - frequently played an unsavory role in exoticizing so-called 'primitive' peoples. Alongside kindergartens the second major form of live demonstrations was displays of non-White, non-European receiving Western educations. At Philadelphia in 1876 the State of Connecticut featured 115 Chinese students who were studying at a variety of institutions in the state. The group appear to have been brought to Philadelphia mostly as exhibition attendees and they were not set up in a 'human zoo' demonstration classroom. Yet in some important ways they seem to have been considered part of the Connecticut display. Francis Walker's (1880) official report on the awards issued across the Centennial Exhibition devotes over 300 pages to describing the education exhibits and remarks of Connecticut:

The body of one hundred and fifteen Chinese students escorted to the Exhibition by the honorable Secretary of the State Board of Education afforded the Judges an unexpected and highly enjoyed opportunity to witness, in their persons, the quickness of mind and adaptability to new circumstances and conditions, as well as the admirable development, which characterize them and have

already given them a very honorable rank among the best pupils of our best New England schools. (Walker, 1880, p. 22)

Perhaps the most significant spectacle of non-Westerners proving their capacity for Western learning occurred at the 1904 St Louis Exposition within the vast ethnological exhibit that the USA set up in order to introduce its new colonial possession (acquired from Spain after 1898) to the American - and a world - public. Approximately 1200 Filipinos and Filipinas were brought to Missouri and organized into villages that were to represent different stages of 'civilizational' evolution. A model missionary school was displayed where loinclothed Igorots (one of the purportedly 'higher-ranked' ethnic groups) demonstrated their potential to be further civilized by singing 'My Country 'Tis of Thee' to President Roosevelt on his visit to the exposition. Live bodies thus offered one of the additional means for providing evidence about the validity and successfulness of education.

Conclusion

In this chapter I have argued that the expositions of the late nineteenth and early twentieth centuries played an important role in the rise of data in education. They played a role in the development and professionalization of educational research that still warrants considerable additional research. Above I have paid scant attention to the statistical data that was presented at expositions. More research is needed on the way that the expositions and the various statistical congresses held concurrently to them shaped national and subnational data-gathering practices. Yet, it is clear from the above that, in gathering student work samples, photographs, architectural models, textbooks, and occasionally living demonstration-students in one place, 'within a few thousand yards of space', the expositions served as powerful centers of calculability.

Exhibitors and attendees alike were well aware of the matrices of comparative gazes that accompanied the making-visible of education processes and policies. The expositions can be considered a 'global scopio system' (Knorr-Cetina, 2008; Sobe & Ortegón, 2009; Sobe, 2013) that, like a prism, focused light and attention on a very carefully smoothed-out space of visibility. Just as in many contemporary accountability systems, there were any number of observers/participants who increasingly paid attention to the reflected or represented reality over embodied, pre-reflective experience and knowledge.

As Martin Lawn notes in the introduction to this volume, within the past few years quantitative data has gained enormous influence in education systems around the globe. We have seen education data moving beyond the purview of the specialists and expert groups that often produce it, to filter into the public representations and perceptions of education systems. As Lawn puts it, 'the visualisation of the data ... has changed over time, especially in its movement from an expert to a public act' (p. 8). However,

this point, while certainly true, speaks to the value of examining the era of the nineteenth-century international expositions, where we see a similar intermingling between the use of education data by expert and lay populations.

The design and coordination of the exposition exhibits themselves was the responsibility of educational specialists, yet there was an intriguing ambiguity in ways that planners sought to appeal both to their peers and to the general public(s) who would attend the events. It is important then that the expositions were not just specialized scholarly or professional events but were public events where different countries' education systems were laid open to general scrutiny and evaluation – with the concurrent possibility of scandalization accompanying a 'poor showing' and national pride and becoming a destination for foreign study tours following for the most successful performers. In this respect, among others, one can say that the late nineteenth- and early twentieth-century expositions reflected some of the same dynamics and tensions that, for example, accompany the OECD PISA tests of today. And, the expositions remind us that the 'accomplished results' of schools continue to interlace with the ways that we make visible education's 'instruments and apparatuses'.

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(Mis-) Trust in Numbers:^[1] shape shifting and directions in the modern history of data in Swedish educational reform

JOAKIM LANDAHL & CHRISTIAN LUNDAHL

SUMMARY In this chapter the authors explore the uses and meanings of data in Swedish educational reform, practice and discourse from roughly the 1940s up to the present day. Their survey covers both national data and international data and includes quantitative as well as qualitative data. They start in the 1940s with two empirical examples that in a way show an antithetical attitude towards data. Travel accounts from America were based on a qualitative approach, and expressed the attitude that the schools studied were important because they were different, modern and inspiring. At roughly the same time, standardised testing was introduced as a technique of connecting the different parts of the school system and rationalising student admission processes. The consequences of this standardisation came under severe attack during the late 1960s and 1970s, resulting eventually in the introduction of a criterion-referenced grading system. Finally, the authors highlight the fact that the last few decades have seen the flourishing of such things as international assessment and school inspection, and there has been an increased emphasis on grades and testing. These examples illustrate that the meanings and techniques of data are objects of a continuous negotiation where sometimes even resistance towards measuring tends to be based on measurements.

Introduction

Over time we see that an educational system uses various kinds of data to describe, to understand or to control itself. In the production and/or the use of educational data, different actors use different technologies of looking at and investigating educational matters. If, by 'data', we simply mean information about something or someone we can see that the history of data in Swedish education is very long and has many forms and shapes. Data

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