

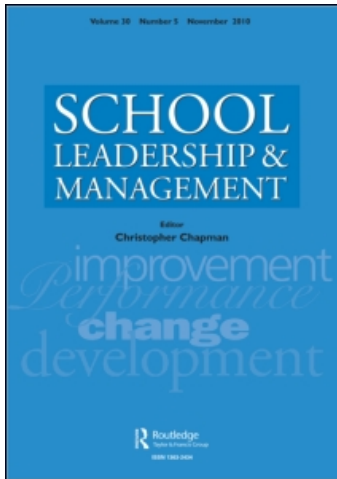
This article was downloaded by: [Teachers College]

On: 18 March 2011

Access details: Access Details: [subscription number 932330063]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



School Leadership & Management

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713446120>

Using state-wide multiple measures for school leadership and management: costs incurred vs. benefits gained

Guilbert Hentschke^a; Priscilla Wohlstetter^a; Jennifer Hirman^a; Dara Zeehandelaar^a

^a Center on Educational Governance, Rossier School of Education, University of Southern California, Los Angeles, CA, USA

Online publication date: 16 February 2011

To cite this Article Hentschke, Guilbert , Wohlstetter, Priscilla , Hirman, Jennifer and Zeehandelaar, Dara(2011) 'Using state-wide multiple measures for school leadership and management: costs incurred vs. benefits gained', School Leadership & Management, 31: 1, 21 – 34

To link to this Article: DOI: 10.1080/13632434.2010.545384

URL: <http://dx.doi.org/10.1080/13632434.2010.545384>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Using state-wide multiple measures for school leadership and management: costs incurred vs. benefits gained

Guilbert Hentschke, Priscilla Wohlstetter*, Jennifer Hirman and Dara Zeehandelaar

Center on Educational Governance, Rossier School of Education, University of Southern California, Los Angeles, CA, USA

In this article, we examine the utility and value of multiple measures of school performance for school leaders and managers. The research was conducted within the context of the state of California through an investigation of how operators, managers and authorisers of autonomous ‘charter’ (publicly financed but privately operated) schools use data to inform decision-making. Users valued data that were transparent in derivation, included an array of schooling dimensions, were longitudinal, and allowed for benchmarking with other schools.

Keywords: management; school improvement; school effectiveness; school performance measures; leadership

Introduction

The goal of the research is to explore the potential added value of multiple school performance measures to school leaders, to identify the conditions and circumstances under which multiple measures of school performance – beyond student achievement scores – may or may not add value to the decision-making of school leaders. Do multiple measures change the managers’ perspectives on the performance of schools? Do they change perceptions of the causal strategies and tactics necessary to improve a school’s performance? Under what conditions would multiple measures precipitate meaningful change?

In pursuit of these questions, we first reviewed the research literature on organisational performance measures with the goal of identifying the conditions and circumstances under which multiple measures of organisational performance may or may not provide additional useful information and to whom. Second, we explored the current tools used for school accountability, and the potential value of multiple performance measures to school leaders and managers. Third, we examined a new and emerging system of multiple measures of school performance, available to school leaders, seeking preliminary understandings about its perceived added value to them.

Background: perspectives on measuring school performance

Single performance measures are not the only choice for accountability data, but they represent how the United States currently evaluates schools. School data can be divided into two general forms: performance indicators and context indicators.

*Corresponding author. Email: wohlstet@usc.edu

Student testing is just one type of performance indicator; the category also includes measures such as graduation or matriculation rates and student grade-point-averages. Context indicators include input measures such as student characteristics, school expenditures, and available resources, and process measures such as attendance, class size, and teacher qualifications (Manna 2008). Despite the diversity of available data types, student achievement has become prioritised above the others when assessing organisational performance.

Over-reliance on a single measure of student performance is especially problematic if the goal is organisational improvement (Goldstein 2001; Hess and Fullerton 2009; Ogawa and Collom 2000). A single measure ignores or obscures other measures that are equally or more important (Manna 2008). States may set their own performance expectations and subsequently lower their standards to achieve them (Linn 2003). Teachers may narrow their curriculum to only the tested content (Loeb, Knapp, and Elfers 2008) or teach test-taking skills rather than content (Faulkner and Cook 2006). The test itself may not be reliable or valid, or the measure may be useless to those who are actually in positions to make changes to the conditions that produced that measure (Manna 2008).

In addition, by using a single performance indicator, rather than multiple context and performance measures, non-measured items are assumed unimportant or distinct from student performance and may be subsequently ignored. The choice of a performance indicator presupposes that financial measures are not as valuable as, or are not linked to, academic performance. It also does not recognise the decisions regarding costs and productivity made by school managers, and fails to acknowledge a school that may be efficient with limited resources (Hanushek 1981).

Inherent in the use of a single measure is the assumption that the producers and users of the data have the same preferences; in reality, the data most useful to those with decision-making authority may not be what is available to them. Often there is no distinction between the three main uses of data: descriptive uses for classification and comparison, policy uses to manage schools, school systems, and government programs, and management uses for instructional and school improvement (Manna 2008). Much as students require differentiated instruction, schools require differentiated strategies for improvement. The varied needs of schools cannot be understood and their unique problems effectively targeted when only a single measure is used to assess them.

Not only do different users have extremely varied uses for the data, but there is a great deal of information asymmetry between the agents (the schools) and the principals (policymakers) of public schooling. Stakeholders closer to individual schools have a better understanding of factors that influence school performance than those that are far removed (Wohlstetter, Datnow, and Park 2008). This asymmetry is either ignored or assumed to be overcome by the use of a single standardised performance measure with no presumed room for misinterpretation.

In response to these problems, systems of multiple measures of organisational performance have been argued for and implemented, both in the public and private sectors (Lipe and Salterio 2000; Poister and Streib 1999). The most widely recognised example of a system of multiple measures of organisational performance is the 'balanced scorecard', developed by Kaplan and Norton (1992) for business (Lipe and Saltierio 2000). The intention of the balanced scorecard is to evaluate a firm's business strategy, to understand the drivers of the firm's performance, and to link

operations with financial performance (Hess and Fullerton 2009). Although there are measures that are unique to one firm, there are also many that are common. Lipe and Salterio (2000) found that managers believe the common performance measures to be particularly valuable in evaluating organisational performance.

In education, use of standardised multiple measures is extremely limited. Some districts such as Los Angeles Unified School District issue more comprehensive school 'report cards' with multiple measures of school performance, but their purpose is increased transparency rather than accountability (LAUSD nd).

Despite recognition of the restrictions of single performance measures and arguments for the benefits of multiple measures in education, there has been little theoretical analysis, and even less empirical examination, of the possible benefits and inherent limitations of a system of multiple measures (Dunbar 2008). However, as empirical experience with multiple measures in the public sector has begun to accumulate, we can now begin to test the theoretical costs and benefits of systems of multiple measures for education. Of particular importance are the opinions and reactions of those who are in a position to make changes to the conditions of the organisation, such as senior management in organisations (Manna 2008), which was the key criterion for the selection of participants for this study.

Development and description of Charter School Indicators-USC¹

As noted earlier, the focus of the study presented here is a new and emerging system of multiple measures of school performance. The system, known as Charter Schools Indicators-USC (CSI-USC), was created in response to the need for a more comprehensive evaluation of charter schools beyond standard academic achievement. 'Charter school' is the name of a category of US public schools of choice – each is publicly funded but operated by a non-public organisation that has applied for and received public authorisation to operate that school.² In exchange for that right and for performing in accordance with stipulations in the charter, these schools are permitted unusual regulatory latitude. Failure to perform in accordance with stipulations in its charter can result in charter revocation and school closure. Because charter schools enjoy unusually high levels of managerial discretion, the value of information for managerial decision-making in those schools is particularly germane.

Charter school stakeholders wanted additional measures of school, staff and student criteria which would provide a more complete picture of a school's state of affairs. The idea was to enhance *decision validity* (Brookhart 2009). So, for instance, in the decision to decide whether a school is doing a good job, several relevant types of information, each with varying measures, are needed – achievement measures (e.g., reading and mathematics), as well as information about resources (e.g., staffing, financial), processes related to teaching and learning, and other school outcomes (e.g., safety, student and parent satisfaction).

In 2000, researchers at the University of Southern California (USC) began by forming several stakeholder advisory groups that included charter school operators, representatives of charter school associations, charter school authorisers, and state department administrators to discuss what types of measures would help better inform their work. An additional advisory group was formed with individuals who work directly with data management systems, including experts within the

for-profit, non-profit, and public sectors. These two groups provided valuable insider input into the conceptualisation, content, and presentation of the indicators.

The development of the indicator system was guided by four main principles. First, the set of indicators would represent multiple perspectives of charter school development, going beyond academic standardised test scores. This is especially important for understanding the operations and progress of start-up charter schools, which face additional challenges related to the opening of a new school. Second, the development of the set of measures would be an organic process, reflecting the feedback and suggestions of charter school stakeholders. Third, the indicator system would use only publicly available data collected by the California Department of Education. No new data would be requested or collected for the indicators. The fourth principle guiding the development of CSI was the commitment to make the indicator system useful to a variety of audiences, from charter school operators and managers, community groups and parents to charter school authorisers and policy-makers.

Through the recommendations and feedback of the advisory teams, and following the guiding principles outlined above, the research team at the University of Southern California's Center on Educational Governance (CEG) developed a set of 12 measures for charter schools (CEG 2010). This set of indicators included context indicators and performance indicators, thereby providing a more comprehensive picture of a school's performance. These 12 measures can be used to describe all public schools, but were fashioned specifically with the input from leaders of charter schools.

The Charter Schools Indicators are divided into four categories and are as follows.

Financial resources and investment

- (1) *Reserves ratio*: Ratio of a school's reserve fund balance to its revenue.
- (2) *Liquidity ratio*: Ratio of a school's assets to its liabilities.
- (3) *Direct classroom investment*: Ratio of a school's classroom investment to its total revenue. Included are teacher salaries and benefits, textbooks, and curriculum.

School quality

- (1) *Staffing resources*: Ranks a school on their teacher/student and administrator/student ratios.
- (2) *Teacher qualification*: Ranks a school on the percentage of their teachers in their first or second year or with emergency or waiver credentials.
- (3) *English learner reclassification*: Represents the frequency that a school transitions students from English learner to fluent-English-proficient.

School performance

- (1) *Academic performance index (API) composite*: Combines a school's API school rank, API similar schools rank, and the API base score from the previous year. The API is the State of California's accountability score. All state systems in the United States have comparable scores.

- (2) *Adequate yearly progress (AYP)*: Includes whether a school met its AYP goals in math and English/language arts, and the percentage of students ranked proficient or above. AYP is the accountability metric required by the federal government in the United States, although each state is permitted to set its own goals.
- (3) *Academic momentum*: Combines the annual changes in percentage of students proficient in math and English/language arts with a school's annual API growth.

Academic productivity

- (1) *English/language arts (ELA) productivity*: Measures academic achievement on ELA standardised tests, compared to non-charters in the same district and in districts with similar per-pupil spending.
- (2) *Math productivity*: Measures academic achievement on math standardised tests, compared to non-charters in the same district and in districts with similar per-pupil spending.
- (3) *School productivity*: Compares a school's API scores to non-charters in the same district and in districts with similar per-pupil spending.

For each measure (except for the financial measures and Teacher Qualification Index, discussed below), data components for all public schools in the state were aggregated, and then analyses were performed to rank order the schools. In these cases, the index scales were developed using standard principal component factor analytic techniques with scale scores calculated using a regression method. Principal component analysis was used to find weights for the individual components and these weights were then used to combine the components into a single score which was ranked across schools. In each case, the factor which explained the largest amount of variability among the indicators was used.

For the financial indicators (reserves ratio, liquidity ratio and direct classroom investment), data were collected only for charter schools using the SACS Unaudited Actual Data and Charter School Alternative Form Unaudited Actual data sets.³ Financial ratios were reported instead of rank ordered, thus allowing schools to see a more accurate view of their data while still allowing for comparisons across charter schools.

For the Teacher Qualification Index, we utilised the methods and measure developed by Professor Ken Futernick, then at California State University, Sacramento.⁴ This score is criterion referenced, as opposed to the other norm-reference measures. A school's scores were not divided into equal size groups of rankings from 1 to 10, but rather, the rankings were determined by the criteria in the formation of the index. This allows for the majority of the schools to receive the same score.

These 12 measures of performance, which combine financial and academic data as well as school, staff and student contextual data, capture intentionally differing dimensions of schooling processes and outputs, painting a more complex picture of the condition of a charter school than a single performance measure (for more detail on the development of CSI-USC, please refer to Brown, Wohlstetter, and Liu 2008).

Study methods

In order to understand how school leaders and managers used the new system and perceived its value, the research team conducted a series of interviews and focus groups with charter school stakeholders from a large school district in Southern California.

Participants

The large, urban district selected for the study contained 35 charter schools, some of which were overseen directly by the school district itself and some of which were managed by various charter management organisations.⁵ The district was selected for a number of reasons: the large number of students it serves, the diversity of its population, the high number of charter schools, and the completeness of the data reported by the district to the state. The managers (n = 9) were chosen because they had oversight over the greatest number of charter schools: the group included representatives from the district itself, a charter management organisation, and a non-profit charter support organisation. These managers then nominated charter school leaders (n = 9) based on a variety of criteria: time spent at their current position, use of data in school operations, and school performance.

Data collection

Data collection was done in two stages: one preceding and one following the public release of the annual CSI report. The first stage sought to ascertain and to understand the management information that respondents routinely used *prior to* their awareness of CSI-USC data on their schools of interest. The research team conducted phone interviews with participants in order to establish their responsibilities as either managers or school leaders, inclusive of both their formal and additional duties. Subjects were then asked how accurately they believed two standardised scores – Adequate Yearly Progress (AYP, as measured by the federal government) and Academic Performance Index (API, calculated by the California Department of Education) – reflected the performance of their schools. Participants were also asked what additional information, gathered both formally and informally, they routinely sought in order to assess the schools for which they were responsible. Finally, they were requested to rank their schools and any other charter schools of interest within the district; schools were ranked as high, medium, or low, based solely on the existing knowledge of the participant. These preliminary interviews were completed in the spring of 2009.

The second stage of interviews took place in the fall of 2009. This stage of data collection sought to ascertain whether, or the degree to which, CSI-USC management information provided valued managerial insights over and above what they already were utilising. The research team conducted in-person interviews in a format that allowed for both group discussion as well as one-on-one confidential discussions. Participants received a copy of the CSI-USC report prior to attending the session and were given copies of the rankings and scores for the schools which they had identified, during phase one, as being of interest to them or their school.

These sessions lasted approximately two hours and began with a presentation on the CSI-USC report and the 12 indicators, followed by one-on-one interviews, and ended with a group discussion. The second stage of data collection was designed to reveal how managers and leaders might use more comprehensive information to alter their managerial approach or action plan for their schools, and whether multiple measures provided added value to their decision making processes. In addition, participants reacted to the measures for their school to determine whether standardised multiple measures could accurately reflect school achievement, and how standardised measures could be integrated with their individual information-gathering strategies. CEG researchers also facilitated discussion among the participants as they conferred with each other whether results for their schools suggested any possible changes to their action/managerial tactics for school improvement.

Of the initial 18 participants, 16 were able to complete both the first and second interviews. Because the first interview provided valuable data in isolation from the second interview, the transcripts from the two subjects who did not attend the second stage interview were still included with the final data analyses.

Analyses

Interviews and group discussions were recorded, transcribed and then coded for general themes which aligned with our original research questions. We separated responses into groups of charter school operators and charter school managers to look for trends which could emerge by their proximity to school-level management. The separation was also done to better understand how multiple measures are used and *by whom*. Finally, coded data were then reviewed and summarised.

Findings

Two levels of findings emerged: those entailing the overall utility of CSI-USC in the context of other management information and those entailing the value and use of individual CSI-USC indicators.

CSI-USC in the context of other management information

For the charter school leaders that we interviewed, CSI-USC indicators have become one more of the many sources of relevant information that they seek and use in the course of their work. In one sense CSI-USC represents a significant addition to that stock of information, especially the data which formally compare and rank individual charter campuses with other schools on a quantitative set of measures. In another sense, however, CSI-USC represents a small incremental addition to the flow of information that charter school leaders use. That information comes in the form of formal, standardised measures that compare virtually all California schools (like the API and CSI-USC reports), but includes as well a rich array of less formal, often anecdotal information from newsletters, articles, reports, regular school visits, meetings, and phone conversations.

Managers seek (and have access to) wide ranges of ‘relevant’ information which may help them understand and better manage the school(s) they lead. Relevance is often in the eyes of the beholder in that individual responsibilities and professional priorities determine relevance to a large degree. Individuals with financially-related responsibilities, for example, are drawn to financial health indicators, but also to measures that have obvious linkages to financial measures, such as staff ratios have to operating costs.

If, alternatively, the manager’s role involved general oversight of a number of charter schools, e.g., as a CMO senior manager or as a school district charter school authoriser, CSI-USC measures of academic performance not otherwise available, e.g., academic momentum, were seen as useful and relevant for their work. Here, too, indices that appeared to be reasonably (not necessarily ‘causally’) associated to the academic indices, e.g., English learner reclassification rates, were seen also to be relevant.

Based on participants’ comments, CSI-USC was clearly perceived to have value, especially in light of its open access status. That value, however, was not uniform across charter school leaders, and varied greatly with the degree to which the data illuminated management issues of interest to individuals. Although it provided a valued addition to the management information already available and was used by charter school leaders, the system was but one source of information recently added to a complex *mélange* of data and information to help frame (and reframe) leaders’ views of how their charter schools were faring. CSI-USC certainly helped to fill the gap of otherwise partial and missing information about charter school performance, but it did not close that gap.

In fact, the opposite effect sometimes occurred. The revelation of new data such as reported in CSI-USC often both attracted the attention of charter leaders and caused them to seek additional data *as a consequence*. Seeing, for example, their school with a low rating in financial health (e.g., liquidity) raised questions of cause and consequence for users and, thus, their interest in obtaining additional data that might help explain low levels of financial health. At one level, data helped answer questions, and at another level, the same data raised other questions. CSI-USC both supplies information and generates interest in further information.

CSI-USC indices – their use and application

CSI-USC indicators appear to provide a useful, even valuable, source of management information for charter school leaders, but that generalisation masks a sense of how these indicators have been used and applied. Based on analysis of participants’ comments, CSI-USC indicators served charter school leaders in three distinct ways – discovery, confirmation and leverage.

(1) Discovery

The value of a particular indicator suggested something about the charter school(s) that the manager did not know or realise before. In that sense, the information was a surprise or a discovery. One charter school leader discovered that his charter school was extremely financially healthy. The participant’s first reaction was ‘this is a pleasant surprise’, but the second reaction was ‘are we too fiscally conservative?’

Regardless of where his subsequent thinking took him, it was this initial discovery that initiated the inquiry. Another charter leader, this time of a school with average academic performance measures, discovered her school's relatively low English learner conversion rate. The data were not a complete surprise to her, but the low relative ranking on this index coupled with the mediocre academic performance measures over time provided her with a new perspective on her priorities.

(2) Confirmation

At least as often as discovery, charter school leaders' reactions to various CSI-USC indicators were ones of confirmation. The indicators confirmed what leaders suspected but for which, heretofore, they had had no formal data against which they could test their hunch. One charter school leader already suspected that her English learner conversion rates were not at a satisfactory level, but the low CSI-USC index for her school confirmed this, prompting her to place greater focus on addressing that issue, which indirectly led to the third use and application of CSI-USC indicators.

(3) Leverage

Through discovery or confirmation from CSI-USC indicators, charter school managers gained insights and recognised issues that changed their thinking about schools. Sometimes the thinking was minimal in the form of an 'aha!' Other times CSI-USC was used by managers as leverage in their discussions to lay the foundation for action with colleagues. In these illustrations, CSI-USC was more than the indicator values, as important as they might be. It represented an externally generated, 'objective' set of measures of a school relative to other schools. Charter school leaders valued such data when they provided leaders with 'evidence' to support what they felt they needed to accomplish in their school(s). One charter school leader, for example, described her school (accurately) as consistently high performing. That was the good news. The problem as she saw it, however, was that the teachers used that fact as evidence that little change was necessary. This frustrated charter school leader was ironically delighted with her schools' low CSI-USC score on academic momentum. It showed how the school was making little improvement in academic performance relative to other schools. This was just the data she needed, she said, in order to move teachers beyond their current state of complacency.

In sum, CSI-USC added an array of management information to an already complex, if inadequate, pool of information and data that charter school leaders pull on as they lead. Not unlike their use of other sources of data, charter school leaders used CSI-USC selectively and in accordance with the perceived value placed on the data by individual leaders. As such it had significant value, but that value varied with the responsibilities and perceptions of different charter school leaders.

Conclusions and policy implications

Many of the findings from this exploratory study suggested procedures and further data that should be incorporated into future CSI-USC reports, specifically, and performance measure systems, more generally.

The fundamental goal of this study, however, was not to evaluate CSI-USC *per se*. Rather, it was to evaluate the value of a low cost, user-developed, privately created, multi-measures, K-12 management information system that relied solely on already collected, ‘raw’ data. CSI-USC is an example of a type. While we are naturally interested in the findings of the study and their implications for CSI-USC, our greater interest was in the type of management information system that CSI-USC represents. Our conclusions and policy recommendations are fashioned more along the latter than the former lines.

Based on preliminary results from the study, we believe there is potentially a high degree of value for school managers and leaders to be gained by using multiple performance measures such as those reported by CSI-USC. The report provided a significant addition to the repertoire of information available to California school leaders, and those with access to it appeared to be using it when and if they perceived its value to them. Much like their use of other management information, CSI-USC helped school leaders to discover, to confirm, and to leverage issues about which they were concerned – not unlike the purposes served by other information relevant to them.

While there are a number of possible specific additions and changes to CSI-USC that have resulted from the findings of the study, the major implication of the study, it seems to us, lies further ‘upstream’ where the data used in CSI-USC are generated. The aggregate cost of generating that data and sending it to the state system is very large, and the current utility of that data (separate from any ‘compliance value’) is small. The additional, incremental cost of repurposing that data into formats which are valued and used by school leaders (such as CSI-USC) is very small. One of the fundamental policy choices of those with an interest in providing greater information to school leaders for decision-making is between inventing and generating reports like CSI-USC, or improving the quality and timeliness of the data already gathered by the state system and making it accessible to present and future developers of reports like CSI-USC. While both approaches have merit, the latter alternative has potentially larger long-run benefits. Why?

Initiatives like CSI-USC, which work ‘at the margin’ converting publicly required, routinely reported data into high value information, will not fulfil all the management needs of school leaders. CSI-USC, and other similar providers of information for school leaders, are limited by the quality and timeliness of the data that they use to develop the indicators. By improving the quality, timeliness, and overall access of its data for analytical intermediaries like CSI-USC, education policy-makers are able, over time, to leverage the creation of more, and more useful, information, with which to manage public schools.

Implications for CSI-USC

As mentioned above, while not the primary goal of this study, the responses from participants suggested certain modifications specific to the CSI-USC report. The intention of providing these here is to share our own insights which may transfer over to similar multiple measure initiatives.

First, increase the transparency of the indicators – their derivations and their original data sources. In those cases in which CSI-USC provided a finding which was a ‘discovery’, users wanted to be able to trace the rankings back to the original

source from the state system and even back to how the data were generated at the school level. In the case of English learner reclassification, many schools were not aware of how their data were reported. Allowing school officials to understand which reporting documents at the school-level supply the data would help them make the managerial decisions necessary to foster school-level change. In addition to data sources, several participants familiar with their own data systems were specifically interested in the exact method used to generate the indices. Several participants in the study were in the position of creating accountability reports for their own school(s) and for these people, knowing how the indicators could be replicated would allow them to incorporate particular CSI-USC indicators into their own reports. By doing so, they would then gain the ability of utilising CSI-USC data for state-wide comparison purposes.

Second, add more measures. School officials expressed an interest in seeing additional data reported out in a state wide comparative format similar to CSI-USC. Of those that were mentioned, some were quantifiable and have the potential of being collected and standardised (waiting list data, suspension rates, years of leadership experience) while others either cannot (governance structure) or would require a more detailed data collection and system of analysis (special education data).

Third, provide longitudinal data for individual schools so they can see their own trends from year to year. While the state-wide ranking allowed for external comparisons of school performance, school officials were also interested to see how their own school(s) performed over time.

Based on this preliminary study of school leaders' and managers' use of one system of multiple measures of school performance, it appears that users value the system and have incorporated it into the repertoire of data that they routinely use as they seek to improve the performance of their school(s). That being said, the following additional four preliminary insights emerged from this study. One, while data can have value, that value can be mitigated by the cost incurred in securing it. CSI-USC is a free good and is perceived as valuable *at that price*. Were it to be made available only at a price, it is not clear if it would be as valued. Two, 'multiple measures' does not imply 'sufficient measures'. Often, access to new forms of data increases, rather than diminishes, the thirst for additional useful data. Three, all measures are not equally relevant for all school managers and leaders, even those with the same nominal responsibilities. Armed with their individual theories of action, managers pull different data from the system to enable them to formulate, test and act upon those theories. Accordingly, all CSI-USC performance indicators were not equally valued by all charter school leaders. Four, data which are valued are data which are 'used'. 'Use' here may imply both overt action and passive mental recognition, but in both cases the data are incorporated into the mental models of the schools that managers lead. In discussions with participants, 'use' to some degree was also tied to how easy or difficult the data were to act on. So, for example, school leaders found it difficult to figure out how to interpret the 'staffing resources' indicator which was calculated using various categories – teachers, counselors and administrators. In response, the research team is considering narrowing the indicator so that users would have better information for making judgments about whether schools were top heavy with administrators or had low student-teacher ratios.

Epilogue

Since this initial study was conducted, the research team during the 2009–2010 academic year transformed the CSI-USC data (released annually for the past four years in hard copy and on the Web in PDF format) into an open access, online, searchable database. *CSI-USC Online* contains a listing of all charter schools in the state, along with their cumulative rankings along the 12 dimensions of performance. New school data are added and analysed annually.

In the online format, users can select particular schools of interest and compare rankings with one another; the site also allows users to compare the performance rankings of individual schools over time. The entire data set can be downloaded, and customised reports based on user-generated searches can be printed.

While the *CSI-USC Online* tracking system suggests charter school stakeholders – operators and authorisers, in particular – are heavy users, the philanthropic community that supports charter schools and parents – both current and potential – have also emerged as ‘heavy’ users of the online database of multiple measures of school performance.

As noted previously, we found that access to new forms of data sometimes increases, rather than diminishes, the thirst for additional information. The search engine for *CSI-USC Online* allows for users to conduct searches by school name and by geographic area. Based on user feedback, the CSI Web developers now are investigating the addition of more categories for sorting schools – student ethnicity, poverty, and school size – to increase the range of comparisons and thus, the database’s utility.

Notes

1. For full description of the development of Charter Schools Indicators, see Brown, Wohlstetter, and Liu (2008).
2. Privately-operated, publicly financed schools of choice represent a growing phenomenon in compulsory education globally. In the US approximately 5000 charter schools serve approximately 1.5 million students, or slightly over 5% of all US compulsory student enrollments. Although referred to as charter schools in the US, Canada, and elsewhere, they are identified by a variety of names in different countries, e.g., academies in England and independent schools in Qatar. For a review of these kinds of schools in the world, see Brewer and Hentschke (2009).
3. As autonomous schools, charter schools have control over their budgets and so are required to report revenues and expenditures to the state annually. Comparable data are not required for individual non-charter public schools.
4. See <http://www.edfordemocracy.org/TQI/> for a detailed description of the Teacher Qualification Index developed by Ken Futernick. Dr Futernick now works at WestEd Regional Laboratory.
5. A charter management organisation controls and operates two or more charter schools.

Notes on contributors

Guilbert Hentschke is the Richard T. Cooper and Mary Catherine Cooper Chair in Public School Administration at the University of Southern California’s Rossier School of Education, where he teaches graduate courses on the economics of education and globalisation. He is a member of the Center on Educational Governance where his research and writing focus on the finance and governance of emerging public, non-profit, and for-profit schools and colleges. Recent publications include *For-Profit Colleges and Universities: Their Markets, Regulation, Performance, and Place in Higher Education* (with Lechuga and Tierney),

Characteristics of Growth in the Education Industry: Illustrations from U.S. Education Businesses, and *The Global Phenomenon of Publicly Financed, Privately Operated Schools* (with Brewer).

Priscilla Wohlstetter, PhD, is the Diane and MacDonald Becket Professor of Educational Policy and the director of the Center on Educational Governance at the Rossier School of Education, University of Southern California. She has researched and published widely on the issue of charter schools, particularly in the areas of governance and accountability. She currently serves as co-director of a five-year national evaluation of charter schools, funded by the US Department of Education. Dr Wohlstetter is spending the 2010–2011 academic year at Teachers College, Columbia University as the Tisch Distinguished Visiting Professor.

Jennifer Hirman is a research associate with the Center on Education Governance. She received her PhD in Educational Leadership and Policy Studies from Arizona State University with a research focus on Arizona's funding of charter schools. She has a bachelor's degree in economics from USC and a master's degree in education from Stanford University. Her research interests include charter school legislation and funding and education reform.

Dara Zeehandelaar is a research associate in the Center on Educational Governance and a PhD student at the Rossier School of Education, University of Southern California. Her research focuses on local implementation of education policy in K–12 urban districts and the politics of school district reform. She previously taught high school mathematics in Washington, DC.

References

- Brewer, D.J., and G.C. Hentschke. 2009. International perspectives on publicly-financed, privately operated schools. In *Handbook of research on school choice*, ed. M. Berends, M.S. Springer, D. Ballou, and H. Walberg, 227–46. New York: Routledge.
- Brookhart, S.M. 2009. The many meanings of multiple measures. *Educational Leadership* 67, no. 3: 6–12.
- Brown, R.S., P. Wohlstetter, and S. Liu. 2008. Developing an indicator system for schools of choice: A balanced scorecard approach. *Journal of School Choice* 2, no. 4: 392–414.
- CEG (Center on Educational Governance). 2010. Charter School Indicators—USC online. <http://www.usc.edu/dept/education/cegov/products/charter-school-indicators.html>.
- Dunbar, S.B. 2008. Enhanced assessment for school accountability and student achievement. In *The future of test-based educational accountability*, ed. K. Ryan and L. Shepard, 263–74. New York: Routledge.
- Faulkner, S.A., and C.M. Cook. 2006. Teaching vs. testing: The perceived impact of assessment demands on middle grades instructional practices. *Research in Middle Level Education Online* 29, no. 7: 1–13.
- Goldstein, H. 2001. Using pupil performance data for judging schools and teachers: Scope and limitations. *British Education Research Journal* 27, no. 4: 433–42.
- Hanushek, E.A. 1981. Throwing money at schools. *Journal of Policy Analysis and Management* 1, no. 1: 19–41.
- Hess, F.M., and J. Fullerton. 2009. *Balanced scorecards and management data (Working paper series: February 2009)*. Cambridge, MA: Harvard University, Center for Education Policy Research.
- Kaplan, R., and D. Norton. 1992. The balanced scorecard: Measures that drive performance. *Harvard Business Review* 70, no. 1: 71–9.
- Linn, R. 2003. *Accountability: Responsibility and reasonable expectations*. CSE Report 601. Boulder, CO: University of Colorado at Boulder.
- Lipe, M.G., and S.E. Salterio. 2000. The balanced scorecard: Judgmental effects of common and unique performance measures. *The Accounting Review* 75, no. 3: 283–98.
- Loeb, H., M.S. Knapp, and A.M. Elfers. 2008. Teachers' response to standards-based reform: Probing reform assumptions in Washington state. *Education Policy Analysis Archives* 16, no. 8: 1–29.

- Los Angeles Unified School District. N.d. School report cards. http://notebook.lausd.net/portal/page?_pageid=33,1027446&_dad=ptl&_schema=PTL_EP.
- Manna, P. 2008. Introduction: Education data today. In *A byte at the apple: Rethinking education data for the post-NCLB era*, ed. M. Kanstoroom and E.C. Osberg, 1–37. Washington, DC: Thomas B. Fordham Institute Press.
- Ogawa, R.T., and E. Collom. 2000. Using performance indicators to hold schools accountable: Implicit assumptions and inherent tensions. *Peabody Journal of Education* 75, no. 4: 200–15.
- Poister, T.H., and G. Streib. 1999. Performance measurement in municipal government: Assessing the state of the practice. *Public Administration Review* 59, no. 4: 325–35.
- Wohlstetter, P., A. Datnow, and V. Park. 2008. Creating a system for data driven decision making: Applying the Principal–Agent framework. *School Effectiveness and School Improvement* 19, no. 3: 239–59.