

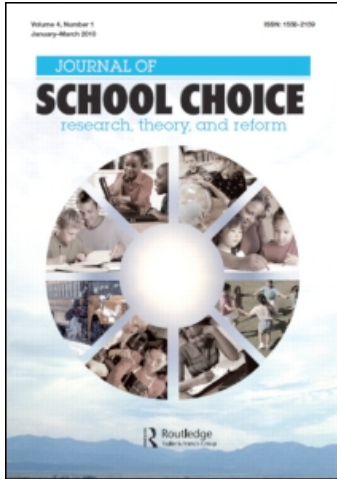
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### Developing an Indicator System for Schools of Choice: A Balanced Scorecard Approach

Richard S. Brown<sup>a</sup>; Priscilla Wohlstetter<sup>a</sup>; Sunny Liu<sup>a</sup>

<sup>a</sup> Rossier School of Education, University of Southern California, Los Angeles, California

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# Developing an Indicator System for Schools of Choice: A Balanced Scorecard Approach

Richard S. Brown  
Priscilla Wohlstetter  
Sunny Liu

**ABSTRACT.** This article describes the process of developing an indicator system that goes beyond a single indicator of school progress or performance. The system relies on a set of school indicators that uses data that public schools routinely report to state agencies for compliance purposes. The framework for the indicator system is based on the idea of “the balanced scorecard.” This indicator system offers multiple measures of school performance, combining both academic and financial data, to assess student learning, program effectiveness, and school operations. Lessons learned in the development and reporting of these indicators of school performance are discussed.

**KEYWORDS.** Indicator system, accountability, charter schools

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Richard S. Brown, PhD, Priscilla Wohlstetter, PhD, and Sunny Liu are affiliated with Rossier School of Education, University of Southern California, Los Angeles, California.

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Address correspondence to: Richard S. Brown, PhD, Rossier School of Education, University of Southern California, 3470 Trousdale Parkway, Los Angeles, CA 90089 (E-mail: richarsb@usc.edu).

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## INTRODUCTION AND PURPOSE

An informed decision requires relevant and useful information. For example, decisions about major consumer purchases are often preceded by reviews of Consumer Reports or similar compilations of ratings or measures of features and characteristics of the product to be purchased. The issue of school choice is no different. Decisions about choosing which school is most appropriate, best performing, or more desirable within a given community also require a collection of relevant and useful information that best reflects the important features and characteristics of the school. Unfortunately, most school accountability systems limit the data elements to measures of student achievement outcomes, such as standardized test scores.

This article describes the process of developing an indicator system that goes beyond a single indicator of school progress or performance. The system relies on a set of school indicators that uses data public schools routinely report to state agencies for compliance purposes. Every year some of these data elements, specifically student test scores and other student achievement data, are released by schools and districts to much public attention. Local and statewide newspapers publish complete lists of these scores, press conferences are held by the state and district superintendents, and school principals and teachers hold community or parent meetings to provide their own evaluation of student and school performance. So what do these data tell us? The data offer a snapshot of how well students are performing, as judged by test scores.

Federal pressure on states and districts to hold public schools accountable for student performance is not new. Indeed, McDonnell argues that the present accountability system is “an evolution of the federal role, not a radical redefinition.”<sup>1</sup> A system of standards, assessments and accountability was central to amendments to Title I of the Elementary and Secondary Education Act under the Clinton Administration (1992–2000). An important change came in 2001 when Congress added some teeth to the system in its passage of the No Child Left Behind Act (NCLB). NCLB forced states to refine their accountability systems to include tracking student performance by certain grades, in certain disciplines, and by student subgroups. The federal law also required state accountability systems to include targets for progress to ensure that all schools and districts make adequate yearly progress (AYP) based on assessments included in the statewide accountability system. NCLB also added consequences for poor performance: if a school fails to achieve AYP in two consecutive years, it is placed in “improvement status” and faces potential restructuring, closure, and reconstitution.<sup>2</sup>

Over the past 20 years, states likewise have expanded their roles with respect to accountability. Every state boasts an education data system<sup>3</sup> and data-driven decision making has emerged as the cornerstone of nearly all school reform efforts.<sup>4</sup> Finally, an assortment of policymakers, public interest groups, and business-oriented organizations (e.g., business roundtables, chambers of commerce) are appealing to state legislatures to strengthen data education systems (see, for example, National Center for Educational Accountability, [www.just4thekids.org](http://www.just4thekids.org)). As State Superintendent Jack O'Connell from California announced in his 2006 State of Education speech, "In this day and age of technology and innovation, we . . . have an obligation to better use data to not only drive our decision-making, but to more clearly and transparently articulate the successes and struggles of all our schools."<sup>5</sup>

Literature on accountability in schools routinely argues for a move beyond using mean test scores as sole indicators of progress, especially in high-stakes circumstances. Among these reasons is the natural variability of scores from year-to-year, especially seen in smaller schools<sup>6</sup> and increased incentives for manipulating scores at the expense of other educational goals.<sup>7</sup> Researchers also point to the fundamental question of whether school assessments are meant to measure absolute scores or the school's performance in raising test scores based on the proficiency of their own student populations. In other words, providing only mean test scores does not reflect the value-added effect of school on student performance.<sup>8</sup>

Research indicates that the calculation of AYP under NCLB, using mean test scores without accounting for entry-level proficiency, is biased against high-poverty schools and those with racially diverse populations. Kim and Sunderman<sup>9</sup> analyzed the demographics of schools that failed AYP for six states: Arizona, California, Georgia, Illinois, New York, and Virginia. Data showed that high-poverty schools were more likely to be labeled as failing even if they improved from year to year at the same rate as low-poverty schools. Because a school can fail to make AYP if a single subgroup of students does not meet target goals, those schools with multiple subgroups of students, including Black and Latino students or limited English proficient students, have a higher chance of failing to make AYP simply because they have more targets to meet. Additionally, data revealed that in the 2002–2003 school year Black and Latino students made up 75% of the school population in failing schools for five out of the six study states, leading researchers to express concern about the implications of federally mandated sanctions being applied disproportionately to schools with high minority populations.

In California, the Public School Accountability Act (PSAA) of 1999 calls for the Academic Performance Index (API) that includes multiple indicators beyond test scores, such as student and staff attendance and student graduation rates. In fact, California requires all public schools to submit a School Accountability Report Card (SARC) that includes data on the demographics of students, teachers, and staff; school safety; learning climate; academic data; school completion; class size; curriculum and instruction; postsecondary preparation; and fiscal and expenditure data. However, California to date has integrated only test score results into the API. The API, while documenting year-to-year improvement in student test scores, does not offer information schools need to properly assess their current status and make informed decisions on ways to improve. By using multiple measures of school performance across a broader array of variables from the state accountability system, schools will be better equipped to make meaningful decisions regarding planning and school improvement.

To argue for a more sophisticated approach to evaluating schools is not to diminish the value of test scores but rather to acknowledge that there are multiple goals beyond increasing test scores that may be worthwhile to measure. Research on ways to improve the utilization of performance measures cites the importance of having evaluation systems that most closely measure the variables associated with the organization's goals.<sup>10</sup> Without a clear consensus on what should be evaluated in schools, an assumption on which current measures are based<sup>11</sup> these data are limited in their usefulness, at best, and detrimental at worst.

In order for those in the public education system to use performance indicators to inform decision making rather than serve as merely a reporting requirement, research suggests that several issues should be addressed. First, stakeholders should be involved in the process of choosing and developing measures of performance.<sup>12</sup> Additionally, stakeholders need to be able to easily understand what exactly is being measured so that they can interpret the cause and effect relationship.<sup>13</sup> Achieving a balance between creating performance indicators that capture the complex nature of organizations and yet are easily understood is difficult. Hurst describes several desirable characteristics of performance measures and the trade-offs that exist when they are at odds with one another.<sup>14</sup> In this case, intricate and detailed performance measures may more accurately reflect school performance, but the trade-off may be that the measures no longer are understandable to their intended users and so may lose power as motivation for improvement. The use of multiple measures in school evaluation offers a strategy for addressing some of these issues.

The purpose of this article is to describe the principles, process, and lessons learned during the development of an indicator system for a particular set of schools of choice: charter schools in California. The indicator system offers multiple measures of school performance, combining both academic and financial data, to assess student learning, program effectiveness, and school operations. The focus of the set of indicators presented here is primarily a policy and decision-making one rather than an effort directed at providing information specifically to parents for school choice decisions. Other aspects of our work that tie into this indicator system effort are more specifically targeted at parents and will be described briefly later in the article.

### ***THE BALANCED SCORECARD FRAMEWORK***

The framework for the indicator system was based on the idea of “the balanced scorecard.”<sup>15</sup> The balanced scorecard is a way of looking at the performance of an organization in a balanced way, through multiple perspectives rather than focusing exclusively on a single indicator, as in education systems where the evaluative focus is primarily (if not exclusively) on student test scores. This approach grew out of the for-profit sector’s interest in tracking corporate performance by looking not just at bottom lines, such as profits and price shares, but at many different operations that were deemed essential to achieving long-term success. The balanced scorecard creators identify four key perspectives that a scorecard approach to measuring an organization’s performance should include. These are: a customer’s perspective, an internal perspective, a financial perspective, and a learning or innovation perspective. The idea is to bring more attention to “inputs” and “processes” that lead to improvement and to avoid quick fixes based solely on outcomes that may result in hindering long-term progress.<sup>16</sup> While focusing on inputs and processes is not a novel approach to evaluating schools, supplementing the current emphasis on test score outcomes with other relevant and important information in terms of the inputs and processes provides a more balanced approach to looking at school performance. That is to say, an accountability system, particularly one dealing with schools of choice that are designed with the expectation of generating better or more desirable outcomes, should strike a balance of representing inputs, processes, and outcome indicators.

Although originally developed for application in the for-profit sector as a means of measuring performance, this approach is nonetheless

applicable across sectors and has been deployed in a variety of settings. The approach has been used to evaluate performance in such diverse settings such as hospitals,<sup>17</sup> health care management organizations,<sup>18</sup> and local governments.<sup>19</sup> In addition, balanced scorecards have been applied in higher education settings<sup>20</sup> to measure organizational performance, specifically with respect to equity and diversity issues.<sup>21</sup> Most recently, the balanced scorecard approach is catching on in K–12 school districts around the country—Charlotte-Mecklenburg, North Carolina, Richmond, Virginia, and school districts in Georgia, to name a few.<sup>22</sup>

Consistent with the perspective adopted here, prior research on public school accountability suggests “the multivariate nature of the school” is important to consider when developing school accountability reports.<sup>23</sup> More than a single variable such as academic achievement should be considered when evaluating a school. Thus, we created a system of multiple indicators for schools of choice that provides a more comprehensive and balanced approach to performance evaluation.

### *Methods for Developing the Balanced Scorecard*

While the need for performance information is especially important to the survival of schools of choice, the resources available for data collection and analysis are often weak. Schools of choice, especially charter schools, tend to be small, have few administrators, and have fewer dollars per student than noncharter public schools.<sup>24</sup> Consequently, many schools of choice do not have the resources to develop, collect, analyze, and report, on their own, multiple performance measures, unlike noncharter schools that are served by the district office’s evaluation staff.

To this end, researchers at the University of Southern California (USC) set out to create a quantitative database for California charter schools with multiple measures of school, staff, and student performance. In order to do this, the research team set up several advisory groups to provide input into the development process. One was composed of a diverse group of stakeholders—potential users of the database—who included charter school operators, representatives from charter school associations, charter school authorizers, and state department administrators. The other group was comprised of management information system experts or individuals responsible for an existing education data system within the for-profit, nonprofit, and public sectors. This group offered expertise and knowledge regarding the development, presentation, and maintenance of the indicator system. While these advisory groups operated by consensus, final

determinations regarding the indicators were made by the Center on Economic Growth (CEG) research team, based on the groups' recommendations. The research team, itself, was composed of five members: three faculty members with expertise in charter schools, finance and economics, and statistics, and two doctoral students. In the final months of preparation a graphic artist and journalist were added to the team.

With input from the groups through a series of focus group meetings and telephonic conferences over about a three-month period, the research team adopted four basic principles to guide the development of the indicator system. First, the system would be designed to utilize multiple measures of performance, representing multiple perspectives. This principle was especially important to start-up charter schools, since in their first few years test scores offered such a limited picture of what the school had accomplished. Second, as suggested earlier, potential users would be involved in the development of the system. The indicators that were designed and the data elements used represent the consensus of the group. For instance, should foundation support be included in calculations of charter school financial resources? While the charter school operators and authorizers argued both sides, the group ultimately decided to exclude foundation support—similar to public schools, charter schools should be able to provide a quality education with public dollars, and foundation support should not be necessary. The third principle determined that the indicator system and its performance measures would rely exclusively on publicly available data: all public schools are required to submit mountains of data to state agencies for compliance purposes but, according to various stakeholders, the data were not reported in ways useful for schools to evaluate themselves. Finally, there was a commitment to make the indicator system useful to a variety of audiences, from policymakers and organizations that partner with charter schools (e.g., foundations, community-based organizations) to charter school authorizers, operators, and the general public.

Known as Charter School Indicators—USC (CSI—USC), the performance system, as designed, uses both academic and financial data generated by the existing California school accountability system and refines its data elements into a workable set of indexes to measure various dimensions of school performance, including inputs, processes, and outcomes. All the data for the CSI—USC indexes are drawn from required state reports filed annually by California charter schools. Consequently, the role of the USC research team was to locate and download the data from the state education and finance departments, calculate indexes for *all* California charter schools, and report annually on year-over-year trends. In addition, the

data set permitted comparisons of charter schools in California to non-charter public schools on most indexes, since the data elements used in CSI-USC are required for all public schools (charter and noncharter) as part of California's annual data collection plan.

As CSI-USC developed, the research team in collaboration with its advisory groups decided on 12 indexes, grouped under four categories: (a) financial resources and investment, (b) school quality, (c) school performance, and (d) academic productivity. Thus, our balanced scorecard, as Kaplan and Norton suggest, offered measures of organizational performance from an internal perspective, a financial perspective, and a learning perspective.

Similar to California's state accountability system, for most of the measures CSI-USC rates schools using a standardized rating system, from 1 to 10, to provide a comprehensive yet easy to understand picture of charter school performance. While a few stakeholders pushed to grade charter schools from A to F, the group consensus held that the conventional accountability system was simpler for users to interpret especially if, as the groups ultimately decided, several indices that others had created on a 1 to 10 scale were imported into CSI-USC.

A critical component to determining the scientific soundness of each performance index is the process utilized in scale development. For most of the indexes, it was necessary to combine data elements for each of the indicators representing that index to form a valid and reliable scale. In most cases, these index scales were developed using standard principal components factor analytic techniques with scale scores calculated using a regression method. That is, where applicable, all of the indicator variables representing a given index were factor analyzed, and factor scores were created using accepted and appropriate techniques. In all cases, the factor analyses resulted in a single factor explaining the vast majority of the variance among the indicators, providing validity and reliability evidence of the constructs of interest and resulting in a more easily interpreted and comparative measure for the schools.

Once factor scores were created, they were rank ordered into deciles to provide easy to understand index values ranging from 1 to 10 on each index. In most cases, these decile rankings were established using full data from the public school data files. In other cases, such as with the Financial Health Index, the decile rankings were predicated on the available data, which represented a smaller number of charter schools only. In the next section, the 12 indexes that compose CSI-USC are first defined and then described.

## ***Financial Resources and Investment***

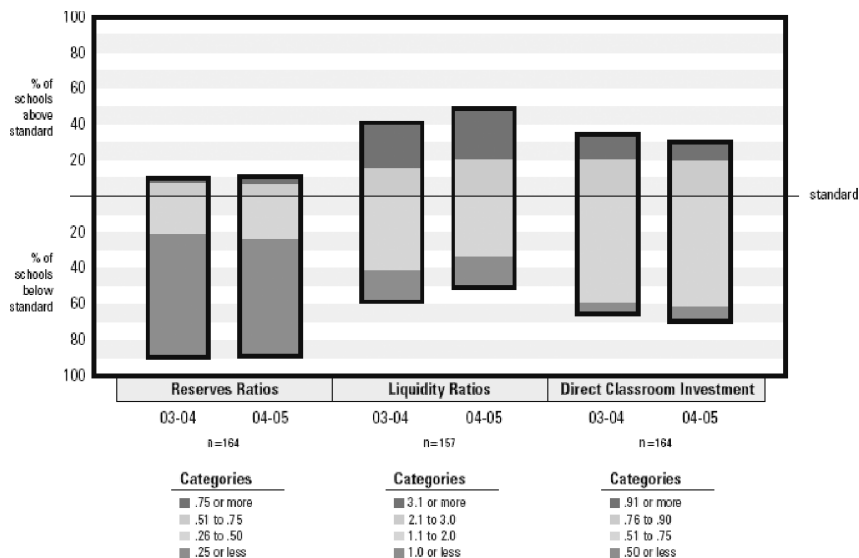
### *Financial Health Index*

*Financial health* is a broad term that seeks to capture both financial decisions as well as financial circumstances of individual charter schools relative to other charter schools. We present two different measures. One measure highlights the conscious decision to set aside reserves and is measured by the ratio of a school's reserve fund balance to its revenues. The larger the ratio, all else being equal, the healthier the school is considered to be. Another measure highlights the current financial circumstance of a charter as reflected in its ratio of assets to liabilities. As different measures of financial health, these two measures provide multiple indicators of financial health, just as multiple academic measures provide multiple indicators of academic achievement. Again, the larger the ratio, all else being equal, the healthier the school is considered to be. Through our discussions with stakeholders, it was recommended that in presenting these financial data for aggregations of schools, categories of values across the ratios be used rather than other aggregations such as mean point estimates and measures of variation such as standard deviations. In addition, it was recommended that a desirable threshold be presented along with the distributions of schools within each of the categories. For the reserves ratio indicator, a .5 value was recommended as the desirable threshold, and for the liquidity ratio, a value of 2.0 was recommended. These values are reflected as the "standard" line in Figure 1.

### *Direct Classroom Investment Index*

A charter school with a high direct classroom investment rating invests a significant portion of its financial resources in classrooms as distinct from applications outside of classrooms. This index is derived as the ratio of classroom investment relative to total revenues. The total revenues number is drawn from the financial accountability form submitted annually by each charter school to the California Department of Education. The classroom investment number represents expenditure categories, such as teacher and instructional aide salaries and certificated pupil support salaries. The value of .75 was recommended as the desirable threshold for this indicator by our stakeholder group.

FIGURE 1. Reserves Ratios, Liquidity Ratios, and Direct Classroom Investment Ratios for Charter Schools with Complete Data 2003–2004 and 2004–2005.



## School Quality

### Staffing Resources Index

A charter school with a high staffing resources rating has low pupil-staff and pupil-teacher ratios (relatively high proportions of adults working with students). These two ratios are calculated by taking the number of staff and the number of teachers from the SARC data files, respectively, and dividing by the number of students enrolled in the school (also obtained from the SARC data files). These variables are combined using a linear combination in a way that maximizes the variance accounted for between schools.

### Teacher Qualification Index

A charter school with a high teacher qualification rating has a team of teachers with relatively more credentials and experience. This index was computed in accordance with Ken Futernick's original formulation,<sup>25</sup> using the percentage of teachers on emergency, intern, or waiver credential

as well as the percentage of teachers who are in their first or second year of teaching. The data are drawn from the SARC data files.

### *English Language Learner Reclassification Index*

A charter school with a high reclassification rating is integrating its English learners into the general education system at a higher rate than a charter school with a low reclassification rating. This index was computed as the ratio of two measures—the number of students reclassified as fully English proficient and the number of students in the prior year who were English-language learners (ELLs). These data are drawn from the SARC data files.

### *School Performance*

#### *Academic Performance Index*

A school's score on the API is an indicator of a school's performance level. This index was constructed using the API school rank, API similar schools rank and API base score. These variables were combined using a linear combination in a way that maximizes the variance accounted for between schools.

#### *Adequate Yearly Progress*

Under AYP criteria, California schools and numerically significant student subgroups must (a) meet annual measurable objectives (AMOs) in English/language arts (ELA) and mathematics, (b) demonstrate a 95% participation rate on assessments in ELA and mathematics, (c) demonstrate progress on the API, and (d) demonstrate progress on the graduation rate of its students (high school only). This index was constructed using four measures (met AYP in math, met AYP in ELA, percent proficient or above in math, percent proficient or above in ELA). These variables were combined using a linear combination in a way that maximizes the variance accounted for between schools.

#### *Academic Momentum Index*

A charter school with a high academic momentum rating is improving student achievement over time. This index was constructed using three measures of academic progress (annual change in the proficient or above in math, annual change in proficient or above in ELA, and annual API

growth). These variables were combined using a linear combination in a way that maximizes the variance accounted for between schools.

### ***Academic Productivity***

#### *English/Language Arts Productivity Index*

A charter school with a high ELA productivity rating has a higher percentage of students proficient in ELA and lower expenses than similar schools. This index was constructed by comparing schools with similar funding levels on the percent proficient or above in ELA on the California Standards Tests. Funding levels for most schools were defined as the district average expenditures per student, but for charter schools the level was calculated based on revenues and enrollments.

#### *Math Productivity Index*

A charter school with a high math productivity rating has a higher percentage of students proficient in math and lower expenses than similar schools. This index was constructed by comparing schools with similar funding levels on the percent proficient or above in math on the California Standards Tests. Funding levels for most schools were defined as the district average expenditures per student, but for charter schools the level was calculated based on revenues and enrollments.

#### *School Productivity Index*

A charter school with a high overall school productivity rating has a higher API score and lower expenses than similar schools. This index was constructed by comparing schools with similar funding levels on base API scores. Funding levels for most schools were defined as the district average expenditures per student, but for charter schools the level was calculated based on revenues and enrollments.

## ***RESULTS FROM CSI-USC: PERFORMANCE RATINGS AND DATA PRESENTATION***

The results from these efforts produced a report on the status of charter schools in California that provides graphical depictions of each of the 12 indicators with relevant comparisons to noncharter public schools, or year-to-year comparisons of charter schools in the case of financial indexes.<sup>26</sup>

In this section, we highlight some of the more interesting findings and offer possible explanations for the results.

### ***Financial Resources and Investment***

In comparisons of charter schools with complete data for the 2003–2004 and 2004–2005 school years, most charter schools experienced a year-end fund balance of less than 25% of their annual revenues, with no marked change during the time period. Also, it appears the liquidity ratios for the charter schools improved in the second year. Figure 1 presents these findings.

One of the reasons for this finding might be that charter schools often start small with a few grades and expand as they age. As a result, they were less able to set aside large reserves because they were in growth mode. In order to improve performance on this measure in subsequent years, charter schools will need to increase their reserve fund balances relative to their revenues.

A second noteworthy finding in the financial area was direct classroom investment—the ratio of classroom investment relative to total revenues. In both years, but more in the second year, as illustrated in Figure 1, the majority of charter schools in California showed relatively low classroom investment; that is, classroom expenditures were 75% or less of total revenues.

As explained earlier, charter schools on average are quite a bit smaller in size than noncharter public schools, and, at the same time, they are responsible for all of the support (nonclassroom) services that are typically provided by district offices to noncharter public schools. As a consequence, a disproportionate number of resources (largely people) are working outside of classrooms in charter schools.

In a cursory review of states that have a state-mandated minimum, they generally require a lower percent of expenditures in classrooms. The Georgia State Legislature enacted the Classrooms First for Georgia Act, and beginning with fiscal year 2008, local school districts were required to spend a minimum of 65% of their total operating expenditures on direct classroom expenditures. Likewise, the Texas Education Agency is expected to propose rules to phase in a requirement that at least 65% of a school district's total available revenues be used to fund direct classroom instruction. It is not all that surprising that a *required* state minimum would have a fairly low threshold, a proportion (65%) that is lower than our measure (75%). Regardless, the assumption in all instances is that, all else equal, a “better” school has a greater proportion of resources going into the classroom.

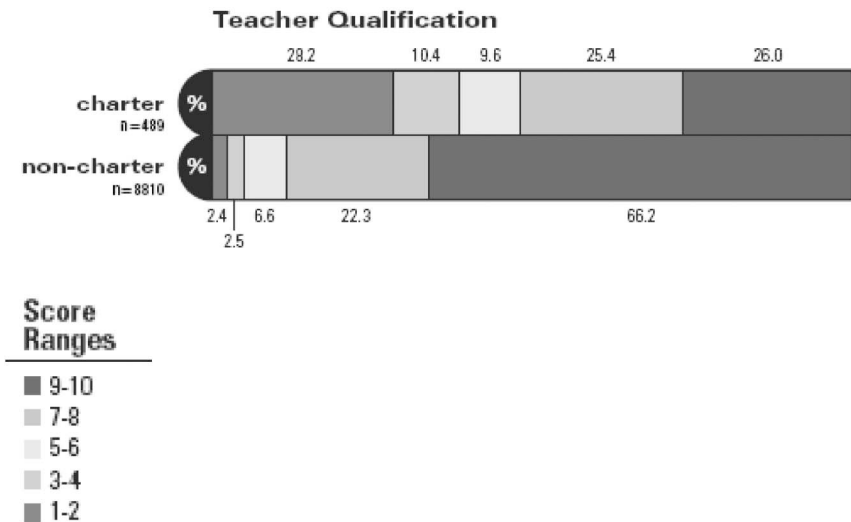
### School Quality Measures

Measures of school quality included staffing resources, teacher qualifications, and the reclassification of ELLs. Nearly half of the charter schools had ratings on the index of staffing resources of 1 or 2 (two lowest deciles); as noted earlier, charter schools compared to noncharter public schools tend to be light on administrative positions, which may help explain the results.

In terms of teacher qualifications (defined by teaching credentials and experience), California charter schools, compared to noncharter public schools, employed fewer credentialed teachers, many of whom had less teaching experience. Figure 2 indicates that 66.2% of noncharter public schools earned a rating of 9 or 10 (teachers with relatively more credentials and experience), whereas only 26% of charter schools earned the highest rating.

Also, the rating of 1 or 2 (high percentage of teachers on emergency, intern, or waiver credential, and/or in their first or second year of teaching) accounted for 28.2% of the charter schools, but only 2.4% of the noncharter public schools. These results are consistent with what others investigating personnel policies in charter schools have found.<sup>27</sup>

FIGURE 2. Teacher Qualification Index, Charter Schools, and Noncharter Public Schools, 2004–2005.



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One of the more surprising findings from CSI-USC 2007 was that nearly half of all California charter schools had low rates for reclassifying ELL students to fully English proficient students. This result is especially problematic since California charter schools have more Hispanic students (33.2%) than any other minority group. "This is definitely an area for improvement," remarked Caprice Young, CEO of the California Charter Schools Association. Many charter schools have waivers from Prop 227 (which requires a one-year transition period to English-only classes). "These schools are experimenting with various approaches," she continued, "like bilingual education. Maybe they haven't been in place long enough to show results. Regardless, we definitely need to encourage more innovation; charter schools haven't yet found a solution that works effectively with the ELL population."

### *School Performance Measures*

For all three indexes in this area, the differences between charter schools and noncharter schools were not large. While California charter schools tended to rank lower on the traditional measures of school performance—API and AYP—their rates of improvement, as measured by the Academic Momentum Index, were more rapid than noncharter public schools in California, with 34.9% of them rating a 9 or 10, as shown in Figure 3.

In terms of Academic Productivity, a comparison of California charter schools with noncharter schools indicated that the distributions of schools across the deciles for English/language arts, math, and school productivity were quite similar. In fact, the range of difference fell within 5%. What was noteworthy with this finding, as illustrated in Figure 4 for school productivity, was that charter schools had higher levels of productivity. In effect, the California charter schools get "more bang for their buck."

## ***DISCUSSION: LESSONS LEARNED IN DEVELOPING THE BALANCED SCORECARD***

The process of selecting, calculating, and validating meaningful indicators of performance yielded numerous lessons. Several times during the development process the advisory groups and the research team were faced with the problem of not having the data for a desired indicator. For example, charter school operators, in particular, were interested in having an index that assessed the school's "learning environment." In looking at

FIGURE 3. Academic Momentum Index, Charter Schools, and Noncharter Public Schools, 2004–2005.

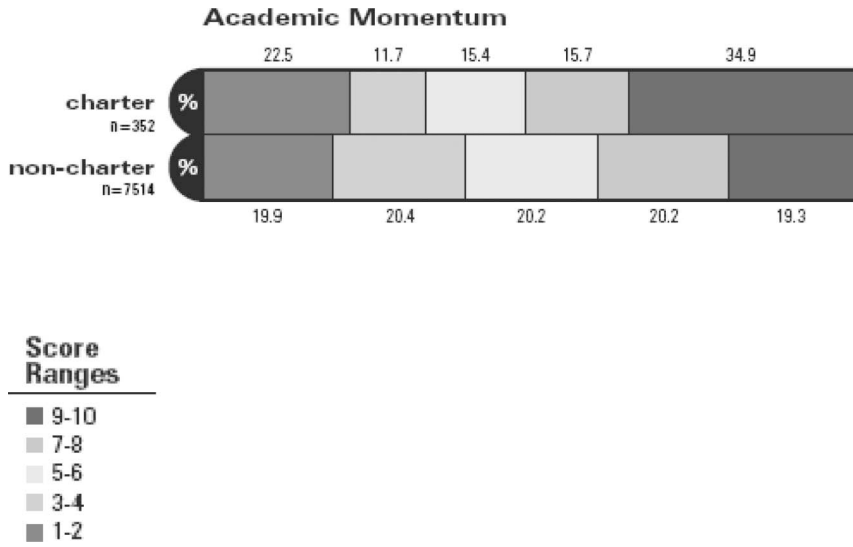
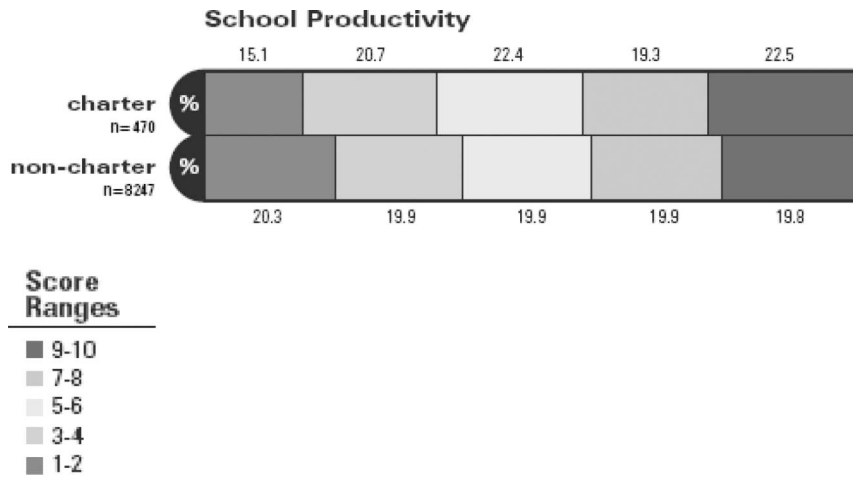


FIGURE 4. School Productivity Index, Charter Schools, and Noncharter Public Schools, 2004–2005.



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the data required by the state, the research team assembled a list of possible data elements: student-teacher ratios, class size, library resources, student Internet access and the like. Most of these data elements were not available in the public statewide data set, so the group had to compromise by creating measures less detailed than originally conceived. "Learning environment" was refined to "staffing resources" since only data relating to student-staff and student-teacher ratios were available.

In a similar vein, the advisory groups wanted to import well-established indicators of performance instead of creating substitutes. Consequently, California's accepted definition of teacher qualifications and school performance (API, AYP) were adopted for CSI-USC. From the users' perspectives, the scorecard indicators needed to reflect the critical performance issues of the day; each imported indicator also had significant political support, from policymakers to the general public. On the other hand, the advisory groups exhibited a willingness to be creative in areas that heretofore had not been assessed and were considered highly relevant to the charter school community. For instance, the Academic Momentum Index (rates of improvement) and the Academic Productivity Index (student achievement as a function of per-student allocation) are neither commonly found in the accountability literature nor used much in assessing educational outcomes. Nevertheless, the advisory groups were very willing to spend time creating the indexes since they offered a fuller picture of how California charter schools were educating students, especially the schools that had been in operation for less than their performance period (five years) and whose students' tenure at the school was similarly brief.

Another lesson learned concerned the issue of data quality in the state databases due to missing data or problems with data accuracy, which also has been found to be an issue in the area of health.<sup>28</sup> The most frequent feedback during focus group meetings with charter school operators was the schools' lack of attention to submitting high-quality data to the state, largely because they were short on administrative staff, and, besides, there were few consequences for not doing so. According to the California Charter Schools Association,<sup>29</sup> charter schools may exercise their right to petition the state to correct the data in the California system, but this is a rare occurrence.

The Ohio Department of Education's solution to the data quality problem is to impose sanctions on public schools—both charter and noncharter public schools—in the event a school either (a) fails to meet established reporting deadlines or (b) fails to make a good faith effort in reporting. So, if a charter school does not submit data on time or submits an incomplete

set of the required data, the state of Ohio withholds 10% of the school's total foundation fund for the first offense and 20% for the second offense within the same fiscal year.<sup>30</sup> This approach has dramatically increased the quality and completeness of Ohio's education management information system<sup>31</sup>; other states may want to consider a similar solution.

Furthermore, as many others have found, we learned that involving stakeholders in the development process improves the product. Charter school authorizers and operators who served on the advisory committee helped the research team identify data quality problems. Comments, such as "the data on my school is not correct," "where did this information come from?" and "I don't remember sending this information to the state," signaled the extent and nature of the data quality problem, which, if pervasive, often led to redefinitions of indexes.

In a similar way, the advice we received from experts with knowledge and expertise about management information systems was essential. Their advice about methodological issues could not have been identified by the research team working in isolation. The experts, along with the stakeholders, also shared perspectives about the utility of the measures and areas for future exploration. More generally, input from the two advisory groups offered several benefits:

- Broad support for the indicator system
- Sharing of experiences and useful suggestions that improved the development of performance measures
- Increased awareness of the strengths and limitations of the existing accountability system

Last, we learned that the form in which the data and findings are presented is as important as the substance. There is an art to data presentation, and having a graphic artist who can convert tables of numbers into appealing visual displays on the research team was essential. As illustrated in the preceding section, a well-constructed graph can make data more accessible to a wider audience, including the general public. Also crucial was the addition of a journalist to the team, who implored members to write in "plain English" and keep *CSI-USC 2007* "short and simple." When *CSI-USC 2007* was released in spring of last year, media outlets including, among others, the local National Public Radio affiliate (KPCC), the *Los Angeles Times* and the *Wall Street Journal*, covered the story of charter school performance in California.

## CONCLUSIONS AND NEXT STEPS

This initiative to develop what ultimately became CSI–USC started with a group of charter schools. Leaders of these schools of choice were acutely aware of the need for multiple measures of performance to help them “tell their story” to external stakeholders (including existing and potential education consumers), identify performance areas for improvement, and complete their charter renewal petitions and applications for accreditation.

The underlying argument of this article rests on the idea that the balanced scorecard approach is needed to address public accountability for quality schools, as well as to assist schools with internal accountability, determining how to improve performance. As the flow and quality of accountability information improves, so too will the quality of educational services. By accomplishing the two objectives of integrating data primarily used for compliance purposes into practical measures for improving school quality and sustainability and broadening measures of school accountability from a single performance measure to multiple measures of school performance, the indicator system would be better able to stimulate school improvement efforts. With more measures to assess performance, greater levels of accountability and school performance will also be achieved.

While this development effort focused on charter schools in a single state, the need for expanded performance systems is relevant to many other states and to the entire public school context. CSI–USC’s reliance on publicly available data ensures that similar indexes in other states across all public schools are possible. It is hoped that researchers, practitioners, and policy-makers who are engaged in performance measurement and accountability endeavors will draw from the extensive process described here.

In looking toward the future, the CEG research team is committed to issuing CSI–USC in the spring of each year, adding new data from the California accountability system so that trends can emerge about how charter and noncharter schools in California compare. Relying on publicly available data means that researchers are limited by what the state has available and when it makes it available to the public. In *CSI–USC 2008*, two additional years of data (2005–2006 and 2006–2007) were added to the 2004–2005 data that appeared in the first report. On the other hand, researchers are stymied by the fact that education data from the California Department of Education are released to the public at the end of the summer, while financial data from the state’s finance department for the same fiscal year are not released until the *following* spring. Consequently, the calculations of indexes involving academic and financial data are delayed

by a year. A recommendation has since been made to several state policy-makers that the release of the two data sets ought to be coordinated.

Another area of future development of CSI-USC is to add the customer perspective to the other three perspective—internal, financial and learning. Kaplan and Norton included the customer perspective in their creation of the balanced scorecard, and for charter schools and other schools of choice, this performance measure would be exceedingly useful both for internal and external accountability purposes. Already, USC's Center on Educational Governance has experimented with developing stakeholder satisfaction surveys for parents, students, and staff.<sup>32</sup> Over 60 charter schools have used at least one of the surveys and the results have helped charter school directors develop better communication strategies with parents and students, have attracted new families and teachers to their schools, and have assisted with faculty development.

Finally, and perhaps most important, the research team is working on bringing data down to the school level to allow for comparisons of individual charter schools with other public schools of similar demographics—student ethnicity, size, and so forth. Such comparisons can help to determine if a school is out of line with other schools. For example, once schools compare their performance with other schools, they get a new perspective on their own performance. If they are performing better than other schools, they will want to widely share this information. If they are performing worse than other schools, they may want to do a more rigorous self-evaluation of their performance to determine areas for improvement, or they may want to contact other schools doing better to research promising practices. Ultimately, the CEG research team envisions the data from CSI-USC populating an interactive, searchable Web site through which the public and education communities can access data about the performance of individual charter schools.

State accountability systems, as currently crafted, are useful primarily as compliance tools. While the state spends considerable time collecting and storing the data, little is done with the information. Through the creation of CSI-USC, the CEG research team, in collaboration with its advisors, worked to develop an indicator system with multiple measures of performance. Our aim was to inform various stakeholders, from policymakers and the public to the charter school community, about the strengths and weaknesses of charter school performance statewide in California. Our future hope is that the quality of data submitted to the state by all public schools—charter and noncharter—will improve as schools become more reliant on the data for accountability and improvement purposes.

## NOTES

1. Lorraine M. McDonnell, "No Child Left Behind and the Federal Role in Education: Evolution or Revolution?" *Peabody Journal of Education* 80, no. 2 (2005): 19–38.

2. Elizabeth H. Debray, Kathryn A. McDermott, and Priscilla Wohlstetter, "Introduction to the Special Issue on Federalism Reconsidered: The Case of the No Child Left Behind Act." *Peabody Journal of Education* 80, no. 2 (2005): 1–18.

3. Education Commission of the States, "Recent State Policies/Activities: Accountability (Postsecondary)" (Denver, CO: Education Commission of the States), [http://www.ecs.org/ecscat/ecscat.nsf/WebTopicView?OpenView&count=-1&RestrictToCategory=Accountability+\(Postsecondary\)](http://www.ecs.org/ecscat/ecscat.nsf/WebTopicView?OpenView&count=-1&RestrictToCategory=Accountability+(Postsecondary)) (accessed April 7, 2008).

4. Amanda Datnow, Vicki Park, and Priscilla Wohlstetter, *Achieving with Data: How High-Performing School Systems Use Data to Improve Instruction for Elementary Students* (San Francisco: NewSchools Venture Fund, 2007).

5. Susanna Loeb, Tara Beteille, and Maria Perez, "Building an Information System to Support Continuous Improvement in California Public Schools," Policy Brief (Berkeley, CA: Policy Analysis for California Education, February 2008), <http://pace.berkeley.edu/reports/PB.08-2.pdf>.

6. Thomas J. Kane and Douglas O. Staiger, "The Promise and Pitfalls of Using Imprecise School Accountability Measures," *The Journal of Economic Perspectives* 16, no. 4 (2002): 91–114.

7. Rodney T. Ogawa and Ed Collom, "Using Performance Indicators to Hold Schools Accountable: Implicit Assumptions and Inherent Tensions," *Peabody Journal of Education* 75, no. 4 (2000): 200–215.

8. Harvey Goldstein, "Using Pupil Performance Data for Judging Schools and Teachers: Scope and Limitations," *British Educational Research Journal* 27, no. 4 (2001): 433–442; Kane and Staiger, "The Promise and Pitfalls of Using Imprecise School Accountability Measures"; Leanna Stiefel, Ross Rubenstein, and Amy Schwartz, "Using Adjusted Performance Measures for Evaluating Resource Use," *Public Budgeting & Finance* 19, no. 3 (1999): 67–87.

9. James S. Kim and Gail L. Sunderman, "Measuring Academic Proficiency Under the No Child Left Behind Act: Implications for Educational Equity," *Educational Researcher* 34, no. 8 (2005): 3–13.

10. Gerald A. Feltham and Jim Xie, "Performance Measure Congruity and Diversity in Multi-Task Principal/Agent Relations," *The Accounting Review* 69, no. 3 (1994): 429–453; Stiefel, Rubenstein, and Schwartz, "Using Adjusted Performance Measures for Evaluating Resource Use."

11. Ogawa and Collom, "Using Performance Indicators to Hold Schools Accountable."

12. Patria de Lancer Julnes and Marc Holzer, "Promoting the Utilization of Performance Measures in Public Organizations: An Empirical Study of Factors Affecting Adoption and Implementation," *Public Administration Review* 61, no. 6 (2001): 693–708.

13. Xiao Hu Wang, "Assessing Performance Measurement Impact: A Study of U.S. Local Governments," *Public Performance & Management Review* 26, no. 1 (2002): 26–43.

14. E. Gerald Hurst Jr., "Attributes of Performance Measures," *Public Productivity Review* 4, no. 1 (1980): 43–49.

15. Robert S. Kaplan and David P. Norton, "Putting the Balanced Scorecard to Work." *Harvard Business Review* 71 (1993): 74–87; Robert S. Kaplan and David P. Norton, "The Balanced Scorecard: Measures that Drive Performance," *Harvard Business Review* 70 (1992): 64–72; Christopher Meyer, "How The Right Measures Help Teams Excel," *Harvard Business Review* 72 (1994): 45–54.

16. Jeff Archer, "Districts Tracking Goals with Balanced Scorecards: Business-Oriented Tool Weighs Operations and Outcomes for Schools," *Education Week*, February (2007): 10.

17. George H. Pink and others, "Creating a Balanced Scorecard for a Hospital System," *Journal of Health Care Finance*, Spring (2001): 1–20.

18. Ignacio Urrutia and Scott D. Eriksen, "Application of the Balanced Scorecard in Spanish Private Health-Care Management," *Measuring Business Excellence* 9, no. 4 (2005): 16–26.

19. Dale Quinlivan, "Rescaling the Balanced Scorecard for Local Government," *Australian Journal of Public Administration* 59, no. 4 (2000): 36–41.

20. Alice C. Stewart and Julie Carpenter-Hubin, "The Balanced Scorecard: Beyond Reports and Rankings," *Planning for Higher Education*, Winter (2001): 27–42; Anne Storey, "Performance Management in Schools: Could the Balanced Scorecard Help?" *School Leadership & Management* 22, no. 3 (2002): 321–338.

21. Estela Mara Bensimon, "The Diversity Scorecard: A Learning Approach to Institutional Change," *Change*, January-February (2004): 44–52; Estela Mara Bensimon, "Closing the Achievement Gap in Higher Education: An Organizational Learning Perspective," *New Directions for Higher Education* 131 (2005): 99–111.

22. Archer, "Districts Tracking Goals with Balanced Scorecards."

23. Richard S. Brown, "Creating School Accountability Reports," *The School Administrator*, November, (1999): 12–17.

24. "California's Charter Schools: Measuring Their Performance," (Mountain View, CA: EdSource, June 2007), [http://www.edsource.org/pub\\_CharterPerf6-07\\_report.html](http://www.edsource.org/pub_CharterPerf6-07_report.html).

25. [www.edfordemocracy.org](http://www.edfordemocracy.org) Ken Futernick, "TQI: A Teacher Qualification Index for California's Schools" (2003), <http://www.edfordemocracy.org/TQI/index.htm>.

26. Center on Educational Governance, *Charter School Indicators: A Report from the Center on Educational Governance* (Los Angeles: University of Southern California, 2007).

27. Michael Podgursky and Dale Ballou, *Personnel Policy in Charter Schools* (Washington, DC: Thomas B. Fordham Foundation, 2001); Courtney L. Malloy and Priscilla Wohlstetter, "Working Conditions in Charter Schools: What's the Appeal for Teachers?" *Education and Urban Society* 35, no. 2 (2003): 219–241; Dominic J. Brewer and June Ahn, "What Do We Know About Teachers in Charter Schools?" (In Press).

28. Pink and others, "Creating a Balanced Scorecard for a Hospital System."

29. California Charter School Association, *Charter Journal Online*, <http://www.uscharterschools.org> (accessed October 30, 2006).

30. Ohio Code Revised, Section 3301.0714: Guidelines for Statewide Education Management Information System, 2006.

31. Todd Hanes, "Balanced Scorecards: A Comprehensive View of School Performance," Presentation at the annual meeting of the National Association of Charter School Authorizers,, La Jolla, California, October 23–24, (2006).

32. Priscilla Wohlstetter, Michelle B. Nayfack, and Eugenia Mora-Flores, "Charter Schools and 'Customer' Satisfaction: Lessons from Field Testing a Parent Survey," *Journal of School Choice* 2, no. 1 (2008): 66–84.