



Addressing the Need for Better Data on Teaching in Colorado

UNIQUE TEACHER IDENTIFIER:
STAKEHOLDER PROCESS REPORT

2007

Vincent Badolato



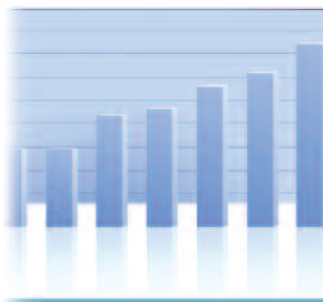


TABLE OF CONTENTS

Introduction	3
Engaging Stakeholders	4
Goal of the Report	4
Acknowledgements	4
Alliance for Quality Teaching Board of Directors	5
1. Why is a Unique Teacher Identifier System Important for Colorado? ..	6
Needed: Better Data about Colorado's Teachers	6
Addressing the Need: Unique Teacher Identifiers	7
What is a unique teacher identifier?	7
How is a unique teacher identifier adopted?	7
What purpose can a unique teacher identifier serve?	7
Providing Answers: Comprehensive Data Systems	8
2. Other State Experiences	10
Louisiana	10
Utah	11
Florida	12
3. Stakeholder Meeting Results	13
Goals and Recommendations	13
I. Defining the System	13
II. Data	15
III. Legislative/Policy	16
IV. Support	17
V. Funding	17
Conclusion	18
References	19

INTRODUCTION

In September, 2005, the Alliance for Quality Teaching board of directors set the primary organization goal: “To close the achievement gap in Colorado by closing the teacher quality gap between districts and schools serving mostly minority and low-income children and those serving children from mostly white, middle- and upper-income families.” To learn more about the teacher quality gap¹ in Colorado, the Alliance convened a meeting of Front Range superintendents for an open discussion on how this gap impacts their districts. While these superintendents clearly stated that Colorado as a whole has a highly qualified cadre of teachers, most of these superintendents also indicated that teachers with advanced skills and experiences frequently leave schools and districts with higher poverty levels for schools with more affluent students. When asked if they could demonstrate this teacher migration with quantitative data, however, these superintendents pointed out that there is no fluid means to share teacher data statewide. One suggested that Colorado should explore and develop a unique teacher identifier system so we can track teachers throughout their careers.

“One of the most important elements of a longitudinal data system is the ability to collect and use quality information on educators over time, and most importantly, to connect their training, professional development and teaching practices to the academic performance of their students. Thanks to the leadership of the Alliance for Quality Teaching, Colorado is diving into this important and timely issue in a thoughtful and strategic manner. While learning from the 16 states across the country which have instituted teacher ID systems, the Alliance is also ensuring that a broad spectrum of Colorado education stakeholders are part of the conversation to develop a system that uniquely fits Colorado. The Data Quality Campaign looks forward to following the progress of these efforts and to highlighting Colorado's successes to other states across the country.”

Aimee R. Guidera, Director, Data Quality Campaign

Following this meeting, the Alliance began investigating the concept of a unique teacher identifier system and found that such a system can provide the capacity to track teachers throughout their career in Colorado and map teacher migration. Furthermore, when linked to students, this system can also provide the means to understand the connection between teacher characteristics and student academic growth.

There are many important questions to address, however, before moving forward. While not exhaustive, these questions include: What does this system look like? How will this system be implemented? Who will have control of the data? How can we ensure that data outcomes will be sound? How can we ensure that these data are not used punitively? How does this system fit into the overall education data system in Colorado?

It became clear that engaging Colorado education stakeholders in a process to address these questions, explore the feasibility of such a system and to develop a plan for establishing a well-constructed unique teacher identifier system was crucial. This report is the result of that process.

¹ The Alliance for Quality Teaching defines the “teacher gap” in terms of a gap in the equitable distribution of qualified teachers, i.e. the disproportionate assignment of less qualified teachers to poor and minority students.

Engaging Stakeholders

The Alliance for Quality Teaching convened four meetings attended by a wide variety of over 50 Colorado education stakeholders in order to (1) investigate the potential of a unique teacher identifier system, (2) develop a common understanding of unique teacher identifier systems, and (3) utilize stakeholder expertise to develop a plan and series of recommendations appropriate to Colorado to effectively create and implement this system. The meetings were held during the summer of 2006 on June 5, June 29, August 8, and September 11. They were led by the Alliance staff, with the assistance of two consultants from JVA Consulting.²

The goal of the June 5 meeting was to lay the groundwork for the process, define terms, and lay out expectations/needs for the future meetings. Mike Hudson, president of the National Center for Educational Accountability (NCEA), served as a guest speaker. The June 29 meeting featured guest presenters from states with a functioning teacher identifier system (Louisiana, Florida, and Utah). The final two meetings were devoted to reflecting on the lessons learned and crafting goals and recommendations for developing a unique teacher identifier system for Colorado.

Goal of the Report

The goal of this report is to provide information about unique teacher identifier systems and disseminate the outcomes of the four stakeholder meetings regarding a unique teacher identifier system for Colorado. The first section addresses what a unique teacher identifier system is and why it is important. The second section provides information from speaker presentations and interviews on how other states developed and use this system to gather data and make decisions. Section three discusses the process of the four stakeholder meetings and the resulting recommendations. The final section offers suggested next steps in the process of developing a unique teacher identifier system for Colorado.

Acknowledgements

The Alliance for Quality Teaching acknowledges the contributions of the individuals who attended the stakeholder meetings, offering input based on their unique experience and perspectives. The Alliance also recognizes the creative energy of the late Cal Frazier, former Colorado Commissioner of Education and President of the Alliance. Cal was the catalyst to conversations about gathering quality data. His goal was to assist school districts examine the distribution of teachers and, where appropriate, take steps to close the gap in teacher qualifications between schools with high poor/minority student populations and those that are more affluent/white. The need for a teacher identifier resulted from those conversations.

The Alliance gratefully acknowledges the Rose Community Foundation, The Jay and Rose Phillips Family Foundation, the Donnell-Kay Foundation and the Daniels Fund, without whose support, this project would not have been possible.

The work of the Alliance for Quality Teaching is the result of the strong leadership of the Alliance Board of Directors. The directors represent a broad spectrum of stakeholders who have committed their time and energy to ensure that the Alliance makes progress toward its mission: *to ensure that Colorado children have a quality teacher in every classroom, every day.*

² Reports on all four meetings can be found on the Alliance website at www.qualityteaching.org.

ALLIANCE FOR QUALITY TEACHING BOARD OF DIRECTORS

Linda Barker

Ron Brady

Kathy Gebhardt

Sue Gill

Michele Haney

Cindy Harrison

Kelly Hupfeld

Christine Johnson

Dwight D. Jones

Brad Jupp

Ginger Maloney

Jan Mazotti

Karen Middleton

Mike Merrifield

Amy Oaks

Kim Race

Lynn K. Rhodes

Angelika Schroeder

Vic Smith

Nancy Spence

Barbara Stallings

Pamela Jo Suckla

Brian Vogt

Tim Westerberg

Sue Windels

Jacqueline J. Paone — Executive Director

The Alliance also acknowledges the individuals who were directors during the formative stage of this report: Carrie Besnette, Cal Frazier, Aaron Gray and Deborah Kerns Lynch.



1. WHY IS A UNIQUE TEACHER IDENTIFIER SYSTEM IMPORTANT FOR COLORADO?

Needed: Better Data about Colorado's Teachers

Research has consistently shown that teachers are the most important educational factor that impacts student learning (Rice, 2003; Sanders and Rivers, 1996; Hanushek et al, 1998; Ferguson, 1998). Since the mid-1990's, the standards-based reform movement in both Colorado and the nation has increased the focus on improving student learning, which leads to increased demand for reliable and timely information on teacher quality. The demand has risen sharply since the federal No Child Left Behind (NCLB) Act became law in 2002, especially in regard to the "Highly Qualified" Teacher provision³. This is even further compounded in Colorado by the significant - and widening - "teacher gap" that is correlated with student achievement, as is presented in the 2006 Alliance report, *Shining the Light: The State of Teaching in Colorado*. Addressing the factors that contribute to this teacher gap and crafting policies to begin closing the gap creates an imperative need for high-quality information.

The various Colorado education agencies - Colorado Department of Education (CDE), Colorado Commission on Higher Education (CCHE), and individual school districts - collect an extensive amount of data on the teacher workforce, such as: demographics, work assignment, experience, educational level, and licensure. While this information is adequate for providing "snapshot" information about overall teacher quality at a fixed point in time, issues regarding capacity, accuracy, coordination and accessibility cause the data to be insufficient to conduct the detailed across years analyses necessary to monitor teacher quality. In addition, the lack of a mechanism to link teachers to the students they instruct makes it impossible to determine teacher contributions to student learning, known as value-added. As a result, we are unable to accurately answer critical questions about the current and emerging workforce, such as:

- Which teachers are most effective in promoting student achievement?
- Where do these teachers work in Colorado and why?
- What policies and programs best support the preparation and development of quality teachers who are most effective in promoting student achievement?
- Are quality teachers distributed equitably among diverse classrooms?

There is a clear and present need to enhance Colorado's educational data systems in order to provide policymakers with the accurate and effective data required to address these teacher quality questions. While not a cure-all, a necessary first step in meeting this need is the development of a unique teacher identifier protocol with a well-designed system for integrating this identifier into the existing databases.

³ The most recent progress report on the "Highly Qualified" mandate, *The Secretary's Fifth Annual Report On Teacher Quality: A Highly Qualified Teacher In Every Classroom*, can be downloaded at: <http://www.ed.gov/about/reports/annual/teachprep/2006-title2report.pdf>



Addressing the Need: Unique Teacher Identifiers

What is a unique teacher identifier?

Simply put, a unique teacher identifier consists of a unique form of identification that is permanently attached to each individual and is commonly used throughout the data system. This concept is not novel as every American citizen is already issued a permanent unique identifier - a Social Security Number (SSN) - that is used by the government and other agencies to identify an individual. A unique teacher identifier is the same as an SSN, but, unlike sensitive SSNs, the teacher identifier is specific to education data systems.⁴

How is a unique teacher identifier adopted?

While the concept of a teacher identifier is straightforward, adopting it into the multiple state-level databases is more complex. This requires a carefully planned identifier system that directs the (1) assignment of a unique identifier to each individual and (2) integration, or mapping, of the identifier into existing data sources. In addition, procedures are needed for extracting and using data from the system. Recommendations for approaching this system in Colorado are provided in section 3 of this report.



What purpose can a unique teacher identifier serve?

Recent research has confirmed that a coordinated and comprehensive state teacher data system is required to make informed teacher policy decisions (Voorhees, et al., 2003; Esch, et al., 2002; Center for Teaching Quality, 2006). This system should not only track teacher demographic and licensure information; it must also have the ability to monitor all features of the teacher workforce.

These features include: credentials and endorsements, qualifications, turnover and projected shortages, distribution patterns, and working conditions (Prince, 2006). Without data systems that have the ability to effectively collect and report on these important aspects of the teacher workforce, policymakers are forced to play a guessing game when evaluating the effectiveness of their policies. This is costly in both time and resources, and it greatly impedes efforts to identify and address teacher quality issues.

Colorado currently maintains three separate state-level data systems to keep track of the emerging and current teacher workforce.⁵ These data systems are disjointed, however, inhibiting the coordination necessary to supply timely, accurate and reliable data about teaching and teacher quality. Licensure procedures present an additional issue as license numbers do not remain consistent throughout an individual's career with teachers receiving a new number every five years at renewal. This makes it extremely difficult to track teacher professional development over time through endorsement changes in their license information, further restricting the ability to provide good and accurate information.

Developing a system to maintain a consistent unique teacher identifier for each individual across multiple data sources can serve as the conduit to link teacher data sources. This will not eliminate coordination and other data issues; that will require a detailed assessment and updating of the current systems. Providing this link, however, creates the mechanism to begin developing comprehensive systems that can provide high-quality data to answer critical questions about teaching and student learning.

⁴ Some other states that currently maintain a unique teacher identifier use SSNs as the identifier, which is discussed in Part III of this report. Privacy concerns and state law restricting the use of SSNs (see C.R.S. § 24-72.3-102), however, may make it less desirable to adopt SSNs as a teacher identifier in Colorado.

⁵ CCHE maintains a database of individuals in Colorado teacher preparation programs and CDE maintains teacher information in two separate databases: human resources and licensure.

Providing Answers: Comprehensive Data Systems

Along with increasing the capacity to build a comprehensive teacher data system for learning more about teaching, a unique teacher identifier is a crucial piece of a longitudinal student data system - a tool that can provide detailed information about student educational progression in order to make sound data-driven policy and practice improvements.

A major provision of the federal No Child Left Behind (NCLB) Act requires that states annually improve student academic performance - with particular attention to the persistent achievement gap between high- and low-performing students. Within a state, districts and individual schools must be able to show that they are making “adequate yearly progress” (AYP) - disaggregated for various student demographic groups - in order to begin decreasing this achievement gap. Most states, including Colorado, calculate this AYP through cross-sectional status models that take yearly academic performance snapshots (Anderson et al., 2005). While they provide important achievement information for a specific year, these models are limited because they are not able to demonstrate school-level academic progress over time (GAO, 2006). Furthermore, many of these models cannot provide student-level academic achievement across years, a capacity required to accurately measure individual student achievement (Anderson et al., 2005).

Developing and maintaining a state-level student longitudinal data system is the only way to provide educators and policymakers with the data they need to confidently assess student achievement and develop strategies to close the achievement gap. Longitudinal data can provide answers to many critical policy questions, including:

- How much academic growth have individual students made over several years?
- What is the value-added and efficiencies of specific schools and programs?
- How effective is the educational system at retaining students from middle-school to high-school?
- What school characteristics are associated with improved achievement over time? (ibid)

Answering these - and many other - questions require a means to effectively track students over time. Moreover, integrating the teacher and student data systems - by matching teachers to students through identifiers - allows for a richer understanding of the teacher-student relationship.



The Data Quality Campaign (DQC) has identified ten essential elements of a state longitudinal data system.⁶ Element five is “A teacher identifier system with the ability to match teachers to students” (DQC, 2005). DQC has found that having a statewide unique teacher identifier linked to student records is an integral piece of an effective longitudinal data system. In particular, it makes it possible to evaluate the effects of specific traditional and alternative teacher preparation programs on student learning. Having this link also creates the opportunity for researchers and policymakers to identify educational and other teacher characteristics that lead to improved student achievement (Hoff, 2006). It

will then become possible to further evaluate how teacher training and qualifications contribute to student learning through value-added assessments.

⁶ For a list and explanation of the ten elements, see: Data Quality Campaign (2005), *Creating a longitudinal data system: Using data to improve student achievement*, which can be downloaded at: http://www.dataqualitycampaign.org/files/Publications-Creating_Longitudinal_Data_System.pdf

“The various Colorado education agencies...collect an extensive amount of data on the teacher workforce... [however,]... issues regarding capacity, accuracy, coordination and accessibility cause the data to be insufficient to conduct the detailed across years analyses necessary to monitor teacher quality.”

Colorado needs to consider creating and implementing a complete longitudinal data system capable of providing accurate, valid and timely data that will give teachers the tools they need to tailor instruction, supply administrators with information to effectively manage, and enable policymakers to identify quality programs that show real evidence of improving student achievement (DQC, 2005). Current conditions suggest that creating this data system in Colorado is a strong possibility. The interest and political will exists,⁷ and DQC has identified that Colorado has six of the ten essential elements already in place to develop a system, including a unique student identifier.⁸ One of the key elements Colorado is missing, however, is a unique teacher identifier that can be linked to the student identifier. As the following section of this report demonstrates, other states have successfully developed a unique teacher identifier integrated into educational data systems. This is used to supply robust data on teaching and make extensive progress developing comprehensive longitudinal data systems. By learning from their experiences - and incorporating the Colorado-specific recommendations generated by stakeholders - Colorado can take a major step toward developing the data systems necessary for measuring what matters to improve education.



⁷ See: Concerning the Longitudinal Measurement of Student Academic Growth, H.B. 04-1433, Colorado, House, (2004) and Concerning Longitudinal Analysis of Student Assessments, H.B. 07-1048, Colorado, House, (2007).

⁸ The 2006 Colorado summary of the ten elements can be accessed at: http://www.dataqualitycampaign.org/survey_results/-state.cfm?st=Colorado.

2. OTHER STATE EXPERIENCES

The National Center for Educational Accountability (NCEA) conducted national surveys of state Departments of Education in 2005 and 2006 in order to determine progress made in building the infrastructure needed to develop and use a complete longitudinal data system.⁹ The 2006 survey found that only 16 states have an operational teacher identifier system with a mechanism to link teachers and students; and Colorado is not one of them.¹⁰ The Alliance investigated the actions taken by these states to develop and use a unique teacher identifier in order to learn about their experiences and help inform the process for Colorado.



To provide the stakeholders with first-hand information on developing and implementing a unique teacher identifier system in Colorado, the Alliance invited experts from 3 of the 14 states - Louisiana, Utah and Florida - to address the group at the June 29 meeting. The following reports were constructed from their presentations at the meeting along with information acquired through additional surveys and/or interviews.

Louisiana

Presenter: George Noell, Ph.D. - Director of the doctoral program in school psychology, Louisiana State University

Louisiana has been collecting and currently uses SSNs as the teacher identifier in their Profile of Education Personnel (PEP) data system. The PEP is also where teacher licensure and certificate information is collected. The SSN is the identifier used to link teachers to classes and individual students in the Student Information Systems (SIS). The SSN is encoded to protect privacy when data is released for research purposes.

The decision to develop a mechanism to link teachers and students was made in order to help meet the data reporting requirements of NCLB. It was also developed as a key component of a Value-Added Teacher Preparation Program Assessment Model, which is being used to create high quality teacher preparations programs in Louisiana.¹¹ The model and the teacher/student identifier links have been operating as part of a statewide database and produced two consecutive school years of data. It was noted that the initial data produced through the system and the assessment model has proven to be much richer than anticipated, allowing for deeper knowledge of the teacher workforce than originally intended, e.g. who new teachers are instructing, when new teachers are exhibiting the greatest increases in teaching effectiveness, the percentage of new teachers whose contributions to student learning is comparable to experienced teachers, and the strengths/weaknesses of university teacher preparation programs.

Collecting teacher information that includes the SSN identifier in the PEP database has not been challenging in Louisiana. Linking the data systems has presented some technical challenges in ensuring the smooth interoperability of diverse data systems, however, and these are being addressed as they occur. There have generally been few political challenges to linking the PEP/SIS databases and developing a growth model to assess teacher preparation as the state legislature has granted broad authority to the Board of Regents to support quality studies. A Blue Ribbon panel, which has endured through several administrations, has been influential in the process as well.

⁹ The complete 2006 survey and results can be accessed at: http://www.dataqualitycampaign.org/survey_results/.

¹⁰ A list and more information about the teacher identifier systems in these 16 states can be accessed at: http://www.dataqualitycampaign.org/survey_results/elements.cfm.

¹¹ Complete information on the Louisiana Value-Added Teacher Preparation Program Assessment Model can be accessed at: http://asa.regents.state.la.us/TE/value_added_model

While there have been concerns raised about the appropriate uses of the data in regard to school and teacher preparation accountability, the goal of improving teacher quality and a focus on students has kept the project moving. Additionally, while there were costs involved in developing a comprehensive system able to link databases, the legislature did not consider this a significant expense as the potential benefits far outweighed the initial costs. The key to the successful design and implementation continues to be a high level of trust in the education community, as well as maintaining a strong “focus on the kids.”

Utah

Presenter: Jerry Winkler, IT Manager, Computer Services, Utah State Office of Education

Utah's intention in building a unique teacher identifier system was to stop using the SSN as an identifier and serve as a mechanism to learn more about the teacher workforce. As Utah maintains a single data warehouse that serves as a clearinghouse for all records, the unique identifier is assigned to every individual after they have successfully passed a state-level background check. The unique identifier is a permanent number that remains with an individual throughout their career in education and is the number used for research purposes, effectively securing personal SSNs.

Developing and implementing a teacher identifier system was not as difficult or costly as the student identifier system. In regard to costs, the question that has guided them through process is “What is the cost of GOOD data?” For Utah, development costs came out to 2.5 FTE (\$300,000) over a 6-9 month technical development period, with annual maintenance equaling 1.5 FTE and some additional time to manage online license renewals (approx. \$150,000). Establishing buy-in from stakeholders - by showing them how their support will result in benefits - has proven to be the key for mitigating excessive costs and time. Stakeholder buy-in has been achieved in a variety of ways: (1) district personnel are able to query the state system to extract the data they need, such as locating teachers with specific credentials to fill gaps; (2) the state holds monthly and semi-annual data meetings open to district personnel to discuss data changes and provide guidance on submitting accurate data; and (3) teachers are able to access personal data to ensure it is correct and make real-time changes. In a local control state, building this buy-in from the local education agencies enhances the overall condition of state-level data and facilitates the process of improving data quality and capabilities.

Utah has used their identifier as an integral part of their data system to report an array of information, such as: tracking teacher mobility; assessing mentoring effects; conducting supply and demand studies; and examining the effectiveness of alternate certification routes through longitudinal analyses. The data collected and analyzed through the identifier has exceeded expectations and, while not yet able to be used for value-added growth assessments, has already been effective for expanding their knowledge of the teacher workforce. Concerns that there could be a negative impact on teachers as a result of enhanced data capabilities are being assuaged through open communication and a track record of using the data to improve teaching and not punishing teachers.



Florida

Presenter: Ruth S. Jones, Ph.D. - Director, Education Information Systems, Florida Department of Education

Florida began implementing a comprehensive Education Data Warehouse (EDW) in the late 1980's and integrating individual teacher data into the EDW in the early 1990's. As teacher SSNs were collected from individual districts for payroll purposes, the state has maintained the use of SSN as the unique identifier, which is used permanently from the moment an individual is entered into the system. As required by Florida statutes, the identifier is used as part of an integrated education information management system used to create performance reports and inform all management decisions. Florida has several layers of check and balance procedures in place to protect sensitive information and ensure approved use of personal data.

Florida gathers an extensive amount of teacher personnel information that is fully compatible across all education databases. This includes the ability to link individual teachers to the students in each class they teach. The state uses the data to implement Florida's accountability legislation, the class size amendment and pay for performance plans in addition to many other projects. In addition, teachers are able to obtain comprehensive data about the students they teach, including test data. The Sunshine Connections project is one of the ways this is currently taking place.¹² This project is designed to provide teachers with an extensive amount of immediate and interactive information tailored to specific needs, including: classroom management tools; student performance data; instructional strategies; abilities to communicate with other teachers; and professional development opportunities.

Isolating specific costs for maintaining the identifier as part of their teacher data system is difficult as the costs are interrelated with the other pieces of the comprehensive EDW. The legislature reviews these costs and finds that the comprehensive data system is cost effective for meeting their needs, as well as the needs of the state agencies and school districts. The EDW uses state of the art warehousing techniques to extract, cleanse and load many data sets from all levels of education beginning with the 1995-96 school year. Individual student and staff data are housed in the EDW and used for various projects and accountability measurements. Examples of continuing and future uses of the data include:

- Expanding pay-for-performance initiatives to reward high performing teachers.
- Tracking individual public school teachers who leave teaching to see where they are going - private school teaching, other industries, etc. - to learn how to more effectively retain teachers.
- Tracking the progress of reading teachers toward full reading certification and endorsement in order to provide staff development opportunities where they are needed.
- Tracking the characteristics of teachers at high-performing vs. low-performing schools to help shape policy and legislation.
- Provide individual student data to the classroom teacher on a timely basis for assistance in lesson planning and remediation efforts.
- Supporting research efforts such as first year teacher progression and other teacher supply and demand studies.

Florida faced initial apprehension from several school districts concerning the comprehensive data system. Reasons included the cost, amount of work, perceived lack of need for the system, and security of the information collected. The Department of Education addressed the issues by obtaining periodic school district input, communicating the advantages of such a system and relying on legislative mandates and support. The result of these efforts is a high quality student and staff data system that is fully integrated and used for all major data reporting and analyses projects. Florida policymakers at all levels are able to use the data to make informed planning and policy decisions.

¹² The Florida Department of Education Sunshine Connections project can be accessed at: <http://www.sunshineconnections.org/>
http://asa.regents.state.la.us/TE/value_added_model

3. STAKEHOLDER MEETING RESULTS

Goals and Recommendations

There was an extensive amount of valuable discussion at these four meetings, resulting in a rich collection of information to guide this process. Including all of the information generated at the meetings is beyond the capacity of this report. However, the stakeholder group was able to identify a goal and a series of first-step recommendations for developing a unique teacher identifier and a system for implementation (unique teacher identifier system). The goal for creating this system is listed below, followed by the recommendations.

Goal: To gather data that will guide preparation, professional development, and policies to improve the quality of teaching

This goal was developed during a brainstorming session in the third meeting. It was the result of the group deciding on a series of cascading end and intermediate outcomes, as well as the primary input, of a teacher identifier system. This is demonstrated in Figure 1.

Figure 1: Teacher Identifier Outcomes Model		
Input	Intermediate Outcomes	End Outcome
Gather effective data	1. Improve teacher quality 2. Improve teacher preparation and development	Improve student achievement

Further deliberation and small group work during the third and fourth meetings resulted in the following five categories identified by the group to be the most important areas of focus/action. These categories are: **Defining the System**, **Data**, **Legislative/Policy**, **Support**, and **Funding**. Specific actionable stakeholder recommendations - followed by an explanation for each - are grouped in their corresponding categories. The five categories are not in order of priority; they must be approached concurrently. The specific recommendations, however, are listed in an informal order of priority.

I. Defining the System

a. Implementing adequate protections against unintended use of data - before moving forward - is *critical*

Concerns over unintended and inappropriate use of the data that can be produced with a unique teacher identifier system were a recurring theme prior to and over the course of the four meetings. There is considerable apprehension that creating a statewide teacher data system with the ability to link teachers to students could be a mechanism to single out specific teachers for punitive actions. Many stakeholders pointed to the significant mistrust of state leadership that permeates Colorado's educational structure as the primary cause for this concern.

A clearly defined official policy that outlines how data produced using a unique teacher identifier will be used must be deliberated and agreed on by all concerned parties before moving forward. Of paramount significance for this policy is coming to agreement on balancing acceptable protections built into the system while ensuring that quality benefits are produced, i.e. creating solutions without detrimental or undesirable consequences. The forum for this policy - along with the participating parties - should be determined after a needs assessment.

a.1. Data cannot be used to make individual personnel decisions (rewards or punishments) at the state level



One protection that must be built into the system is a firm guarantee that data will not be used to make personnel decisions - positive or negative - at the state level. The data produced at the state level should only be used for informational purposes. Personnel decisions should remain the responsibility of individual districts.

b. Initially, the system should be used primarily to track teacher mobility

Designing and implementing an accurate, valid and useful teacher data system through a unique teacher identifier will take time; many issues regarding capacity, design, compatibility and use must first be determined and resolved. As such, the teacher identifiers should be used initially to track teacher mobility within the state. Using it in this way at the outset will ensure that the assignment of identifiers and maintenance of the system is functioning properly, along with providing useful trend data on teacher movement. It will also ensure that the identifier is able to be linked across data systems.

c. As the capacity of the system increases and it can be used with confidence, teacher identifiers should be linked to student identifiers in order to evaluate the effectiveness of Colorado teacher preparation programs

Once there is a high level of confidence that the teacher identifier is operating well, steps should be taken to begin linking teacher identifiers to student identifiers. This should initially be done on a small scale in order to ensure that this link is done correctly and to allow for any kinks to be ironed out before scaling up. This could be done by beginning with linking teachers who are new to the profession in Colorado. Conducting the initial linkage in this manner will facilitate the process as it will commence at the point these teachers enter the data system and it will be easier to identify errors as their records are fresh. The accuracy of this link should be reviewed on an annual basis.

“Colorado should create a fully-functional longitudinal data system once there is complete confidence that the teacher database is both performing optimally and is interoperable with the student database.”

Along with ensuring that the system is functioning properly, a rich dataset will begin to develop. Over time, this dataset could be used to begin evaluating the effectiveness of Colorado teacher preparation programs by examining how teachers prepared in these programs are faring in a variety of ways, such as where they are hired; patterns of retention; and gains in student achievement. Well-constructed datasets and analyses could then be used to identify the most effective practices and help shape how future teachers are prepared, tailored to specific needs.

c.1. Acceptable proxies of effectiveness must be determined prior to evaluation

Determining acceptable proxies of effectiveness before evaluation is necessary to ensure that appropriate research-proven and applicable measures will be used to evaluate programs and accurately identify best practices.

d. As the system is further refined and becomes a fully operational longitudinal data system, it should be used to tailor teacher professional development and curriculum development to meet individual needs and support a value-added assessment system

Colorado should create a fully-functional longitudinal data system once there is complete confidence that the teacher database is both performing optimally and is interoperable with the student database. This system will provide teachers, administrators and policymakers with the accurate, valid and useful information to make quality data-driven decisions. It will allow for the development of a carefully designed value-added assessment system that will positively impact student achievement. Specifically related to teachers, this longitudinal data system will create an unprecedented opportunity to authentically tailor curriculum construction and professional development programs to meet the specific needs of both teachers and students in Colorado.

Developing a longitudinal data system with these capacities will necessarily take multiple years, but should be the end outcome of the unique teacher identifier process, with the goal of using this system to improve student achievement.

II. Data

a. Convene a panel of data experts to ensure accurate and valid implementation

Developing a unique teacher identifier system that is accurate, valid and useful will require data expertise. Stakeholders recommend that the governor and/or legislature convene a technical advisory panel of state and nationally recognized data experts to oversee and report on the design and implementation process. The composition of the panel will be decided at a later date but should include: independent experts; databases managers; in-state data producers and end users; and others to be determined. Additionally, this panel should consider procedures to expand data capacities to develop a comprehensive teacher data system and a complete longitudinal data system in the future.

a.1. Examine data capacities to determine current condition and needs

The first responsibility of the advisory panel will be to examine the education data system to assess condition and structural/staff capacities. The panel would then issue a status and needs report with any necessary recommendations to update the system. This will provide a clear picture of the current state of data that can be used to determine realistic cost and capacity requirements.

a.2. Integrate system into existing data sources

During the design phase, the advisory panel should make every effort to develop a system to integrate the teacher identifier into existing data sources in order to ease implementation and keep costs to a minimum. These data sources include, but are not limited to: CCHE Student Unit Record System (SURDS), CDE Teacher Licensure and HR data sets, and CDE Student Identification Numbers (SASID). The integration would likely commence in one of these data sets and be expanded to the others.



a.3. Determine an effective data mapping process and conduct diligently

Correctly mapping the current data sources to teacher identifiers will be a complicated process and requires open collaboration between all individuals and organizations involved in producing and using the data to ensure compatibility and usability. The meeting stakeholders presented some preliminary actions to conduct this process:

- CDE must start maintaining a consistent teacher license number and consider using this consistent license number as the unique identifier.
- Mapping the identifier could begin at human resources or licensure.
- Determine how possible “relationships” (teacher-student) will be captured by the data, which could occur in at least two ways:
 1. Every class offered in the state is numbered through a course code system, with these course codes captured in teacher and student records, or
 2. Each student record captures the teacher identifier for every course they take and each teacher record captures the student identifier of student they teach.
- Examine and integrate current district mapping practices.
- Examine current federal and state laws, rules and regulations to ensure compliance.

b. Establish a well-defined policy and structure to determine data access, ensure appropriate use, and preserve individual privacy

Along with the task of designing the unique teacher identifier system and the process for generating data, the advisory panel (or a separate panel) should craft a well-defined policy that explicitly outlines how the data produced will be used. At the minimum, such a policy must include: guidelines for determining data access; an unambiguous process for requesting and receiving data; clear protocols for appropriate data use, with penalties for misuse; and rules to preserve individual privacy consistent with the federal Family Educational Rights and Privacy Act (FERPA) and all other relevant regulations.

b.1. Consider instituting an Independent Review Board for all data access

A well-received stakeholder suggestion is to consider instituting a state level Independent Review Board to monitor the data policy. This Board could be established by - and report to - the governor and/or legislature and would not be associated with any specific state department or agency. The membership should include broad representation from the Colorado education community, as well as additional community, foundation and business representatives. Governing regulations and the process for monitoring the data policy would be decided at the time of Board establishment, should this Board be deemed necessary.

III. Legislative/Policy

a. If legislation is necessary, define the mission and goals in the bill language

While not a definitive conclusion, meeting stakeholders believe that legislation may be the required impetus for proceeding with the unique teacher identifier process. If legislation is necessary, the language should clearly define the mission and goals of establishing a unique teacher identifier system, including the charge for a data panel and explicit protections as described in III.a.1 below.



a.1. Make it clear that the intent is to improve teaching and learning, and not be punitive

Legislative language to establish a unique teacher identifier system must clearly state that the system is for making a positive impact on teaching and learning and no state level punitive action will result from data produced through use of the identifier. It was emphasized over the course of the meetings that clear and adequate protections against inappropriate disciplinary measures are critical for the process to move forward.

b. Keep regulatory timelines realistic and flexible

It is unclear at the outset exactly how long it will take for this process to reach certain milestones and come to fruition. Therefore, while timelines are necessary to maintain steady progression, all timelines should be as realistic as possible and have built-in flexibility to account for unforeseen complications.

IV. SUPPORT

a. Collaborate with stakeholders and develop a workable process that meets needs and builds wide buy-in

The meetings that resulted in this report began to build stakeholder support for a unique teacher identifier system and utilize their expertise to generate recommendations for moving forward with the process. While the stakeholder group consisted of many key individuals and organizations, successfully moving forward will require even broader support. Therefore, it is important to identify and collaborate with additional Colorado stakeholders to ensure that the identifier process is conducted in a satisfactory manner and will meet a laudable goal. This is essential for policy success.

“The teacher identifier system is for making a positive impact on teaching and learning”

V. FUNDING

a. Identify partnership and funding sources

There will new costs associated with designing, implementing, and managing a comprehensive teacher data system through the unique identifier, in addition to a complete longitudinal data system down the road. As there are statutory and constitutional controls and limits on taxing and spending, stakeholders recommend investigating and pursuing alternative funding sources and partnerships to mitigate costs. Funding suggestions include: applying for current and future federal Institute of Education Sciences (IES) statewide data systems grants and other federal sources; pursuing potential private and business funding opportunities; applying for development and capacity grants from Colorado and national foundations interested in improving student achievement through data-driven decisions. One partnership suggestion is to enter into agreements with Colorado institutions of higher education to assist with personnel and expertise in designing, developing and implementing the statewide data systems at a competitive cost.

It must be noted that moving forward requires a commitment to fund the cost of the program through both start-up and operation for it to be successful.

b. Engage the funding community in the planning process

Engaging the in-state funding community in the unique teacher identifier process is important for gaining their support. Steps should be taken to include the funding community so they have a direct stake in the process in order to bolster their interest in the program and enhance their confidence in achieving the desired outcome. This will increase potential alternative funding opportunities and build an added level of support for the teacher identifier system.

b.1. Build a strong results-driven strategy

In addition to including the funding community, developing a strong results-driven strategic plan will enhance opportunities for alternative funding, especially from business and national organizations that may not have a direct stake in the process. Securing a funding commitment from any outside source will be near impossible without a clear outline for achieving tangible results. The state should consider collaborating with funders and others with business planning expertise to develop a robust strategic process plan.

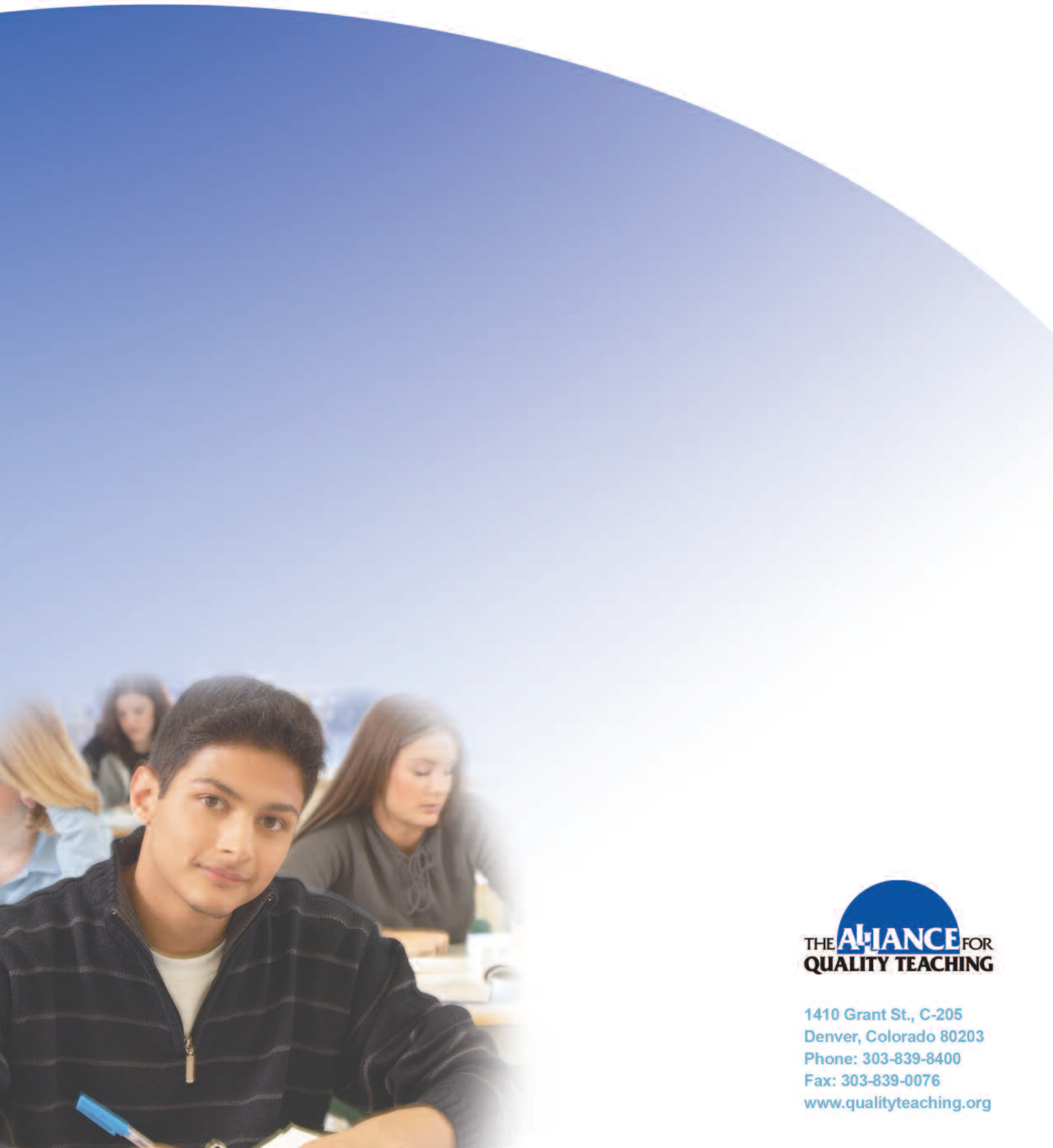
CONCLUSION

The importance of teacher quality to student achievement makes it imperative that Colorado use data to assess and improve that quality. The state must enhance its capabilities to collect and use accurate, valid and timely education data to make data-driven policy and practice decisions. A unique teacher identifier is an essential component of the strong longitudinal data system needed to support those decisions. Resolving Colorado's data shortcomings will require a coordinated state effort and serious leadership commitment to thoroughly assess and update current data systems. The recommendations provided in this report are a first step toward improved state data capabilities through the design of a unique teacher identifier and the implementation of a system for appropriately integrating and using the data produced.

Over the coming months, the Alliance for Quality Teaching will continue to work with policymakers and others in order to refine the recommendations in this report and develop an action plan to move forward with this process.

REFERENCES

- Anderson, S., D. Fowler & S. Klein with C. Dougherty. (2005). *Judging student achievement: Why getting the right data matters*. Washington, DC: MPR Associates, Inc. & National Center for Educational Accountability.
- Center for Teacher Quality (n.d.). *Teacher quality data systems roadmap: Building teaching data to promote sound TQ policies and programs*. Retrieved September 23, 2006, from <http://www.teachingdata.org/>.
- Concerning the Longitudinal Measurement of Student Academic Growth, H.B. 04-1433, Colorado, House. (2004). Retrieved September 3, 2006 from http://www.state.co.us/gov_dir/leg_dir/olls/sl2004a/sl_359.htm.
- Data Quality Campaign. (2005). *Creating a longitudinal data system: Using data to improve student achievement*. Washington, DC: author.
- _____. (2006). *Results of 2006 NCEA survey of state data collection issues related to longitudinal analysis*. Retrieved December 3, 2006 from http://www.dataqualitycampaign.org/survey_results/.
- _____. (2006). *Colorado - Summary of the ten elements*. Retrieved January 8, 2007 from http://www.dataqualitycampaign.org/survey_results/state.cfm?st=Colorado.
- Esch, C. E., P. M. Shields & V. M. Young. (2002). *Strengthening California's Teacher Information System*. Santa Cruz, CA: The Center for the Future of Teaching and Learning.
- Ferguson, R. (1998). *Can schools narrow the Black-White test score gap?* In C. Jencks and M. Phillips (Eds.), *The Black-White test score gap* (pp. 318-374). Washington, DC: The Brookings Institution.
- Government Accountability Office. (2006, July). *No child left behind act: States face challenges measuring academic growth that Education's initiatives may help address* (Publication No. GAO-06-661). Retrieved August 2, 2006, from <http://www.gao.gov/new.items/d06661.pdf>.
- Hanushek, E., J. Kain, & S. G. Rivkin. (1998, revised 2002). *Teachers, schools, and academic achievement* (NBER Working Paper No. 6691). Cambridge, MA: National Bureau of Economic Research.
- Hoff, D. (2006, May 4). *Keeping track*. *Education Week: Technology Counts 2006*, 35(25), 16-18.
- Prince, C. (2006). *Template for state teacher equity plan*. In C. Prince (forthcoming), *Good-faith efforts: What states can do to ensure quality teachers for the students who need them most*. Washington, DC: Council of Chief State School Officers. Retrieved August 9, 2006, from www.ccsso.org/content/PDFs/StateTeacherEquityTemplate.doc.
- Prohibition - inclusion of social security number- requiring social security number over the phone, internet, or mail - exceptions, Colorado Revised Statutes § 24-72.3-102 (2004). Retrieved September 3, 2006, from LexisNexis database.
- Reichardt, R., J. Paone & V. Badolato. (2006). *Shining the light: The state of teaching in Colorado 2006*. Denver, CO: Alliance for Quality Teaching.
- Rice, J.K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes*. Washington, DC: Economic Policy Institute.
- Sanders, W. L. & J. C. Rivers. (1996). *Research project report: Cumulative and residual effects of teachers on future student academic achievement*. Knoxville, TN: University of Tennessee Value-Added Research and Assessment Center.
- U.S. Department of Education, Office of Postsecondary Education. (2006). *The Secretary's fifth annual report on teacher quality: A highly qualified teacher in every classroom*. Washington, DC: author.
- Voorhees, R. A. & G. T. Barnes with R. Rothman. (2003). *Data systems to enhance teacher quality*. Denver, CO: State Higher Education Executive Officers.



1410 Grant St., C-205
Denver, Colorado 80203
Phone: 303-839-8400
Fax: 303-839-0076
www.qualityteaching.org