Office of Special Services

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A Note from the Editor:

*Welcome back to the new school year! As you are busily working to get classes and programs organized, I wanted to let you know that CDE will be continuing the publication of "**Research You Can Use**." As you may recall, this publication provides a synopsis of research about current issues that impact the day to day life of those of you in schools.*

*This month's issue brings some interesting notes about using data as a decision making tool. This issue was developed by **Jo O'Brien, Director of Learning and Results.** We thought it particularly appropriate that the month of September focus on data for decision-making since schools and districts have recently received their assessment reports.*

Using Data-Driven Practice to Improve Student Learning

"Understanding and using data about school and student performance are fundamental to improving schools. Without analyzing and discussing data, schools are unlikely to identify and solve the problems that need attention, identify appropriate interventions to solve those problems, or know how they are progressing toward achievement of their goals. Data are the fuel of reform (Killion and Bellamy, 2000)."The concepts embedded in the quote by Killion and Bellamy represent a new notion on the importance of using data for decision making. Rather than education leaders debating **HOW** colleagues will deliver content or resources, the field is slowly recognizing what most industries have learned; professionals must determine the short and long term **EFFECT** of each operation and make resource adjustments based on impact (e.g. student learning).

This is a radical departure for the majority of educators and will take years for the profession to standardize. Previously,

educators were influenced by a host of political and cultural forces that dictated *how* student's desks were arranged, the type of textbook used, the length of classroom instruction and the style of learning. Now, consideration of the EFFECT that instruction has on increasing student achievement is a primary focus and the decisions of inputs necessary to reach student achievement based on formative feedback from learners is being recognized. Capturing student learning gaps and growth before and during the lesson, therefore, are seen as increasingly paramount. The mere delivery of a lesson is now secondary to the impact this lesson may or may not have on individual student learning. Making adjustments and recognizing the most efficient and effective methods (no matter the variety) **based on regular feedback** is becoming a part of the profession's new "stock and trade".

"As Sylvie Hale once stated" Schools have to collect data to make sure they're on target. "

Four themes in today's research sum up how this significant shift, the focus on the effect of instruction, can assist schools in making a significant improvement in student achievement:

- **The customization of instruction based on student learning gains and gaps**

- **The greater professionalization this shift has for teachers**

- **The swing toward exporting success expectations among and between districts and states**

- **The strengthening of parental voice and choice in the public market as use of formative feedback occurs**

Only individual examples can properly illustrate the impact each of these themes is having on research, policy, and practice. In all cases, note how fundamentally different each theme is from historical paradigms.

#1 The Customization of Instruction Based Upon Student Learning Gains and Gaps

This shift from uniform "best practice-based" instruction to the recognition that individual student's needs drive instruction has taken time to "come to market". For example, millions of dollars were spent to win the professional hearts and minds about Whole Language delivery vs. Phonemic awareness instruction. Research-based practice proved them both "right" at the time, but it was different from RESULTS-based research. In the end, the feedback gleaned from both significantly altered student reading gains. There was a recognition that student reading required powerful phonemic fundamentals, and to get stronger results, students needed to hear and handle the sounds of language. Only by watching where the student gains were occurring could a professional tailor better approaches to learning.

When the new objective is to impact each individual student's academic growth, new habits must occur to succeed. The following are important steps in using data feedback effectively:

1. Absolutely explicit grade to grade, implement **subject area articulation** of the few, best linked sub-content performance standards. What are the specific math functions and surrounding knowledge behind this work that fifth graders need to know and what does the fourth grade need to do to prepare students for this small, potent body of work? What

would third and second and first grade need to do in each sub-content area and skill set to scaffold these ideas for the easiest absorption of each new idea? <u>Setting standards and then standardizing these "stair steps of knowledge" would be crucial to diagnosing what individual attention each student would need to learn to mastery the required content.</u>

2. **Pre-assessment** of each student's awareness and competency for each level of knowledge could launch a professional <u>awareness of how a teacher might approach the construction of a lesson [knowing now, what pre-knowledge the student brings into the classroom].</u>

3. **The ongoing questions and the demonstrations asked directly of students** determine how a student is absorbing new ideas and where gaps exist. This process lets the teacher know the degree to which <u>the lesson is effective for each student.</u>

4. **Post lesson assessments**, **essays, demonstrations, and portfolios** are examples of how a teacher <u>determines mastery</u> and how a student exposes the depth of knowledge he/she has for the lesson.

5. A richer, more comprehensive **analysis** of the results must occur which includes: <u>pattern finding, skill set gaps, strength mining, and professional review of past work.</u> Some schools are sharing this study of individual student growth with the students themselves and inviting

them to "invest" in the ownership of learning and the presentation of charts and markers that indicate their learning.

In summary, the arguments now are less about what lesson book is used and more about by what the data says about the effectiveness of the body of materials assigned.

Quite a number of software, tutorials, paraprofessionals, videotaping, and new designs in grade books are simplifying the process of breaking down the operations and components in a lesson that are fundamental to mastery. Data feedback tools, video capture, student interviewing, and coaching are reinforcing the concept that by changing practice teachers can much more decisively improve student learning.

- A catalog of examples for this kind of tool can be found in Colorado with the Data Feedback Sampler which gives 104 examples of formative tools for the classroom, parents and district office. It can be obtained at the Colorado Department of Education, Office of Learning and Results, 303.866.6648.

- One of the best resources for organizing diagnostic and value needed tools is the Center for Performance Assessment. It has print, research, on-site assistance and copious examples of how to *customize* instruction based on student learning. 800.844.6599

#2 The Greater Professionalization This Shift Gives Teachers

The good news for educators is that the diagnostic tools emerging on the market give educators more of a sense of control over

their success. As the teacher is given the opportunity to get formative feedback on a daily basis, this increases the ability to improve the delivery, standardize conversations, repeat victories, and see that conditions are maximized to help students again.

A profession relies on a more uniform body of knowledge, and agreed upon, more standardized practices and set chunks of content. However, due to a populist approach to American education, states have set different standards, districts have agreed to a wide variety of methods / licensure to enter the classroom and colleges of education have encouraged diverse approaches from one college campus to another.

Performance expectations also vary. Unlike medicine and law, educators' expectations, delivery of instruction, professional conversations and agreed upon definitions of success for their charges depend on the school or district for which they work. A host of pre-existing conditions, vocabulary and performance expectations are present for other professions.

With the advent of diagnostic routines for teachers, the depth of skill sets necessary to make meaning out of data and to adjust and routinize the victories means that the value of the profession protects itself from alternative means of reaching students. Additionally, the conditions for diagnosing needs, sharing professional terms and assessing common success are expanded when the same expectations for performance are present.

The feedback, the discussions and the greater rate of gain based on a results based body of knowledge offers a firmer voice for the teacher advocate. Salaries, professional associations, hiring processes and, in turn, teacher preparation is elevated when results

are stabilized and can be made more predictable.

- Examples of this professional advancement include evidence from the American Board for the Certification of Teacher Education at www.ABCTE.org , the National Board for Professional Teaching Standards www.nbpts.org and

- Research is on –going about the connection between professional roles and student results from the landmark 1994 book The Field Guide to Educational Renewal. The Vermont Restructuring Collaborative carries on the research linkages with the Holistic Education Press at 800.639.4122.

#3 The Shift Toward Exporting Success Expectations Among and Between Districts and States

What had once been a relatively insular profession, has now, with the advent of public accountability models, emerged as one of the more visible occupations. As school districts attempt to beat their last best performance year, there is a desire to share good results' stories and defy the sometimes persistent beliefs that some students cannot be reached, academically.

As state accountability policy becomes connected with national accountability policy, there is a drive to learn about how other sites have successfully accomplished their accountability targets. While national clearinghouses, federal laboratories and vendor associations have talked about and provided this service in the past, the research is showing that more schools and districts are looking for success in areas with similar demographics. Other examples of this use of feedback include a shift in importing

leadership, models of successful instruction, and tools for formative student diagnosis. Tools and research that exemplify this exporting and highlighting for others of successes include:

- Just for the Kids displays the performance of comparable demographic school profiles and shares the variable results of each in ways that compare the "opportunity gaps" in student learning. They can be reached at www.just4kids.org.

- The No Excuses Project is a collection of stories of more that 60 schools that beat the usual demographic excuses for better student academic gain. It exports their common characteristics via an easy to read book, workshops, collaborative partnerships and resources to replicate such successes. They can be reached at www.heritage.org.

- Education Trust studies and researches evidence of schools that significantly improve academic growth of traditionally underserved students. Their outreach is significant and their database is extensive and long-term. They catalog and aggressively export their findings and work with news outlets to demonstrate public school capacities. Their contact information is found at www2.edtrust.org

#4 The Strengthening of Parental Voice and Choice in the Public Market as This Use of Formative Feedback Occurs

As the profession demonstrates more responsiveness to feedback and adaptation for student need, policy is forcing educators

to publicize their successes and their gaps in student achievement. These "marks" for schools are, not so coincidentally, showcased with the evolution of school choice, magnet markets, and school vouchers. The message about American education has changed; what was once seen as an input model only with students believed to be rather fixed in their performance outputs is now seen as influencable.

If parents could leave one school that doesn't appear to be raising their student's performance levels and move to a school that *does* improve student achievement, the school system becomes a marketplace and formative feedback becomes the early indicator of how a school competes.

The yearly "marks" a school makes become ever more important to the "customer". Student diagnostic indicators help a school gauge, correct and reinforce lessons delivered. As state and federal policy shift to choice in public education, formative feedback is crucial to the ways schools use early response mechanisms to catch more students from wandering off point from the lessons taught.

This use of data driven decision making in the market is so emerging that the long term trend research is still forming.

- Education Week, the national professional newspaper for American Education has award-winning documentaries about parent choice and the myriad of state indicator databases parents are choosing to use in order to make smart decisions about where to place their child. Lynn Olsen is the leading reporter about this emerging use of data for parents.

Education Week is a weekly subscription paper of record and can be reviewed and researched by going to www.edweek.org

- Stanford University is arguably one of the better schools of education tracking this market- based, data driven parent choice movement. Eric Hanushek at Stanford is studying the policies and lessons at the national and state levels that are emerging. Included are the related issues that parent choice impacts such as teacher quality and special education needs. This researcher can be reached at hanushek@stanford.edu.

Conclusion

Using data to guide decision making does not come naturally to schools. The historical context as well as the use of data to label schools as low performing, has not facilitated an effective use of data. Nevertheless, the historical precedence has given way to an increased emphasis on use of data. Schools can use available resources to inform both their practices and their decision making.

Reference

Killion, J. and Bellamy, G. T. (Winter 2000, vol.21, No 1) On the job: Data analysts focus school improvement. Journal of Staff Development

Web-based Resources

The following links provided by the National Staff Development Council will assist schools in making effective use of data. Only certain links are mentioned here. For the full list go to:
http://www.nsdc.org/library/data.html

Overviews and Definitions:

Data-Driven School Improvement
http://www.ed.gov/databases/ERIC _Digests/ed 401595.html

Data Inquiry and Analysis for Educational Reform
http://www.eric.uoregon.edu/publications/digests/digest153.html

Education Policy Publications: Data-Driven Decision Making
http://www.ncrel.org/policy/pubs/dddm.htm

Sources of Data:

Education Trust
http://www.edtrust.org/main/index.asp

Kids Count
http://www.aecf.org/kidscount

National Center for Education Statistics (NCES)
http://nces.ed.gov

Tools and Strategies for Using Data:

Data Can Help Teachers with Standards Implementation
http://www.educationadvisior.com/ocio2001/DatabasesCanHelp.pdf

The Inquiry Process: From the Classroom to the School
http://www.enc.org/professional/guide/foundation/data/document.shtm?input=BYD-002644-pdf

The Toolbelt: A Collection of Data-Driven Decision Making Tools for Educators
http://www.annenberginstitute.org/Toolbox/index.htm

Tools for Using Data to Drive Decisions: An Evaluation Template
http://www.serve.org/_downloads/June2002.pdf

Using Data to Improve Schools: What's Working
http://www.aasa.org/cas/UsingDataToImproveSchools.pdf

Future Issues of Research You Can Use:

November 2003 "Scientifically Based Research"
January 2004 "Resource Reallocation"
March 2004   To Be Determined
May 2004   To Be Determined