

THE STANDARD DEVIATION

May 2007



Washington Educational Research Association
University Place, WA

<http://www.wera-web.org>

Speaking Truth to Policy Makers: WSIPP

The Washington State Institute for Public Policy (WSIPP) was created by the 1983 Washington State Legislature to conduct non-partisan policy research. A Board of Directors representing the legislature, governor, and public universities guides the development of all Institute activities. The Institute receives study assignments in legislative policy bills and biennial budgets or from the Board. The Institute's staff of policy analysts and economists, specialists from universities, and consultants conduct the studies. Reports are submitted to relevant legislative committees and state agencies and are posted online at www.wsipp.wa.gov.

Recently released Institute reports cover a broad range of topics, including student performance on the Washington Assessment of Student Learning (WASL), benefits and costs of full-day kindergarten and class size reduction policies, outcomes of public mental health services, and evidence-based policy options to reduce crime rates and criminal justice system costs. In recent years, Institute staff have developed particular expertise in cost-benefit analysis in the areas of criminal justice, mental health, drug and alcohol treatment, prevention/early intervention, and K-12 education programs.

Recent Study

"Benefits and Costs of K-12 Educational Policies: Evidence-Based Effects of Class Size Reductions and Full-Day Kindergarten." (March 2007). The Washington Legislature directed the Institute to conduct economic analyses of K-12 policies and programs. The first report in this series examines class size reduction and full-day kindergarten

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policies. For class size, we analyzed 38 recent high-quality studies and found that in kindergarten through second grade, there is evidence that reducing class size increases test scores. In later grades, the test score gains are smaller or nonexistent. For full-day kindergarten, the results are also mixed. We analyzed 23 rigorous evaluations and found that full-day kindergarten, in comparison with half-day kindergarten, produces a statistically significant test score boost during or shortly after kindergarten. These positive early gains, however, appear to erode almost completely in subsequent grades. Thus, for full-day kindergarten to generate long-term academic benefits, research needs to examine how to sustain these early gains.

One of the most challenging aspects of the Institute's work is its role as a non-partisan research organization in a political environment. To maintain credibility, the Institute uses the most robust data available and rigorous analytical techniques to address policy-relevant issues. Institute reports focus on specific questions posed by the legislature and do not make policy recommendations unless requested to do so in the study direction.

Continued on page 3...

President's Column



As I take the gavel of the Washington Educational Research Association president, I ponder what it means to lead a professional association with such a timely and serious mission:

It is the mission of WERA to improve the professional practice of educators engaged in instruction, assessment, evaluation, and research of:

- assessing student performance,
- evaluating programs,
- conducting and applying educational research, and
- using data to inform instructional decisions.

How have we done as an organization to implement our mission and vision? My perception over 15+ years as a WERA member is that we have done well! I remember attending WERA conferences as a classroom teacher. Joe Kinney brought me with him because I was always after him with questions about research and data. Many of my favorite sessions were presentations of research papers. I was reminded of these sessions at the Winter Conference as I listened to Jack Monpas-Huber share his dissertation research, the same work that earned him the first WERA Outstanding Dissertation Award.

At the Spring Conference I participated in a session where Seattle Public Schools shared their research on student cohorts' success in meeting standard on the 4th, 7th, and 10th grade WASL.

The session elicited dynamic dialogue between the participants and presenters about what the data might mean and what other studies we might implement to determine how to intervene earlier and more effectively with struggling students.

I use these examples as I call for more conference sessions where researchers---whether classroom-based action research, district-based program reviews, or our higher education members---share their research questions, methods and results so we can better work as a state-wide system to improve the learning of all children.

Many of us are publishing our work. Peter's electronic formatting of *The Standard Deviation* allows us more freedom in the length and type of information we can communicate among members.

So I would invite researchers of studies large and small to submit a brief executive summary of your work. Talk to the WERA membership about the research you are conducting. Perhaps someone else is asking the same question and we can publicly add to the research-base of our state.

We are the Washington State affiliate of the American Educational Research Association. So while I greatly value the sharing and collective learning we do in *assessing student performance, evaluating programs, and using data to inform instructional decisions*, it is the *conducting and applying educational research* that I hope to have as a focus during my tenure as president.

In the next *Standard Deviation*, I will share some of the research my colleagues in Spokane Public Schools and I are reading and using to articulate strategies to close the achievement gap--standard for students of color.

—Lorna Spear, WERA President

Speaking Truth to State Policy Makers *(Continued from page 1)*

In the education field, during the upcoming year the Institute will continue its review of WASL and other student assessment data. Institute staff will also provide research support to a state task force on basic education funding, as directed in the recently passed Senate Bill 5627.

To learn more about the Institute or to download individual reports, visit <http://www.wsipp.wa.gov> or contact:

–Annie Pennucci, Senior Research Associate, Washington State Institute for Public Policy
(360) 586–3952 or pennuccia@wsipp.wa.gov

Future Calendar

WERA Items

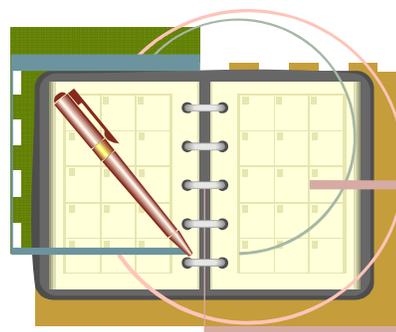
- 2007 State Assessment Conference, December 5–7, 2007
Hilton Seattle Airport Hotel
- 2008 Spring Conference, March 26–28, 2008
Hilton Seattle Airport Hotel
- 2008 State Assessment Conference, December 3–5, 2008
Hilton Seattle Airport Hotel

- American Evaluation Association Annual Conference, Baltimore, MD. November 7–10
- American Educational Research Association, National Council on Measurement in Education, National Association of Test Directors, Directors of Research and Evaluation Annual Meetings and Conferences, New York, NY. March 23–28, 2008
- OSPI Conferences Contact:
<http://www.k12.wa.us/Conferences/default.aspx>

Contact: <http://Wera-web.org>

Other Calendar Items (Non-WERA)

- OSPI Summer Institutes
 - June 19–22, Spokane
 - July 31–August 3, Vancouver
 - August 7–10, Auburn
- WSACD Annual Conference, SeaTac, November 1–3.
www.wsacd.org/pdf/07regform.pdf



Winter Conference: Call for Presenters

This year's theme for the WERA/OSPI State Assessment Conference is **"Testing Assumptions."** **What does it mean to believe that all children can learn at high levels and meet rigorous standards?** This conference will test your assumptions about the achievement of all learners, and provide proven strategies for student success based on data and best practices.

The conference provides an excellent opportunity to showcase the innovative work that has taken place at OSPI, the school districts, universities and the educational community over the past year. This promises to be a lively, timely and dynamic conference.

Our keynote speakers are **Laura Lipton**, an expert on using data-driven dialogue to determine and implement innovative and effective instructional practices, and **Tony Alvarado**, former chancellor of the New York Board of Education. Please save the dates **December 5 - 7, 2007** for the conference.

We encourage you to send in your proposals for this conference. See pages 5-6 for the conference brochure with the Presenter's Proposal Form. Please indicate whether your proposal is for a **half-day** pre-conference or a **75 minute** breakout session.

The deadline for submitting the forms is June 15, 2007. Please send your proposals to: Lorna Spear: lornas@spokaneschools.org (fax 509.354.5965)



~ Jack Monpas-Huber,
winner of the first WERA
Outstanding Dissertation
Award



~ University of Washington
professors Mike Copland
(left) and Michael Knapp
winners of the WERA
Product Awards for the
series entitled "Improving
Leadership for Learning"

The mission of the Washington Education Association is to improve the professional practice of educators engaged in instruction, assessment, evaluation, and research.



WERA Services

- *WERA provides professional development through conferences, publications, and seminars.*
- *WERA provides forums to explore thoughtful approaches and a variety of views and issues in education.*
- *WERA provides consultation and advice to influence educational policy regarding instruction, assessment, evaluation, and research.*

Announcing the 23rd Annual Washington State Assessment Conference
Seattle Airport Hilton Hotel Conference Center
December 5–7, 2007
“TESTING ASSUMPTIONS”

What does it mean to believe all children can learn at high levels and meet rigorous standards? Does **all** really mean **all**? The OSPI/WERA State Assessment Conference sessions will test your assumptions by providing not only data about the achievement of all learners, including English Language Learners, special needs children, culturally and racially diverse students and gifted children, but will provide proven strategies based on data and best practices that are making a positive difference in student success. Conference keynote speakers will be Laura Lipton, Ed.D. and Tony Alvarado.

Laura Lipton, Ed.D is Co-Director of MiraVia, LLC. She is an international consultant whose writing, research and seminars focus on effective and innovative instructional practices and on building professional and organizational capacities for continuous learning based on data. Laura will share with us her research and expertise in facilitating data-driven dialogue, action research and learning focused collaboration in schools and districts. Her recent publications include:

Data Driven Dialogue: A Facilitator's Guide to Collaborative Inquiry (with Bruce Wellman, MiraVia, LLC)

Mentoring Matters: A Practical Guide to Learning-focused Relationships (with Bruce Wellman, MiraVia LLC)

Pathways to Understanding; Patterns & Practices in the Learning-Focused Classroom (with Bruce Wellman, MiraVia LLC)

More Than 50 Ways to Learner-centered Literacy (Skylight Press)

Shifting Rules, Shifting Roles: Transforming the Work Environment to Support Learning Organizational

Learning: The Essential Journey (with Arthur Costa and Bruce Wellman)

Tony Alvarado is the former Chancellor of the New York City Board of Education and Superintendent of New York City Community District 2, where he pioneered nationally recognized district organizational changes that centered on professional development for teachers and principals. This effort resulted in unprecedented growth in student achievement in a complex and challenging urban school district setting. As Chancellor of Instruction in San Diego Unified School District, he led a massive reform effort to accelerate the learning of all children based on the theory of action that the key element of reform is the improvement of classroom instruction. Tony will discuss with us how he uses data generated within a system to guide the planning of continuous improvement for the students it serves.

Save the dates on your calendar, December 5–7, 2007.

If you would like to propose a pre-conference training or a breakout session for consideration on the conference program, please complete the form on page six ([download linked form](#)) and send it to Lorna Spear at the address listed on the bottom of the form.

**Washington Educational Research Association
WERA/OSPI State Assessment Conference, December 5–7, 2007
Seattle Airport Hilton Hotel Conference Center**

“Testing Assumptions”

Presenter’s Proposal Form

Please indicate if this proposal is for a: half-day pre-conference **or** 75 minute breakout session

Name: _____ Phone: _____ E-Mail: _____

Address: _____ FAX: _____

Job Title: _____ Employer: _____

If you plan to have others assist in this presentation, list them below for inclusion in the program. Include their name, institution/employer, and title:

Complete these lines *only if the presenter listed above is not the person to contact* about this presentation:

Contact Person: _____ Phone : _____ E-mail : _____

Complete mailing address: _____

Presentation Title:

Brief Description of Presentation: (Please limit to about 50 words, edit carefully, and write legibly.)**** *This is for inclusion into the program. An interesting description will attract people to come.*****

Primary Audience(s): (Check all that apply. This will not limit who comes to your presentation; it just helps us to assure there are presentations for each of these groups.)

- Teachers Building Administrators Central Office Staff University Staff
 Research/Evaluation/Assessment Specialists Elementary Middle Sr. High

Schedule conflict: (Please use only if you are unavailable to present on the indicated day/time.)

- Unable to present on Thursday, December 6 in morning; in afternoon
 Unable to present on Friday, December 7 in morning; in afternoon

Return **completed** form ASAP, but no later than June 15, 2007 to:

Lorna Spear: lornas@spokaneschools.org (fax 509.354.5965)

Pete Dodson Symposium: Who Makes the Grade in Mathematics?

Former software engineer and Stanford University campus school mathematics teacher Robert Brandt challenged state mathematics educators to return to “example-based teaching” and abandon constructivist instruction. The “Where’s the Math?” citizens’ group advocate claimed we had lost sight of the math that “put men on the moon.” He claimed that Washington state standards were flawed and received an “F” from a recent Fordham Foundation review.

He provided the example of North Beach Elementary School in Seattle where he said Saxon Math is used and 90% of students have met standard over the past five years. He compared performance to Bellevue where TERC is in place and 70% meet standard. Below are two tables showing data from the OSPI website for grade 4, the only grade with multiple years data.

North Beach Elementary (262 enrolled, 79.4% white, 11.9% poverty, 0.0% ELL)

Year	School	State
2001-02	81.4%	51.8%
2002-03	83.3%	55.2%
2003-04	91.4%	59.9%
2004-05	88.9%	60.8%
2005-06	81.1%	58.9%

Bellevue School District (16,258 enrolled, 57.7% white, 23.6% poverty, 8.8% ELL)

Year	District	State
2001-02	71.6%	51.8%
2002-03	70.2%	55.2%
2003-04	72.0%	59.9%
2004-05	74.4%	60.8%
2005-06	71.6%	58.9%

Moderator Dave Ross of KIRO radio also called on panelists Ron Donovan (OSPI), Dave Pavelchek

(WSU Social Sciences Research Center), Mary Ann Stine (Everett Public Schools), and Cathy Taylor (OSPI and UW.) Donovan spoke of the close collaboration between high education and K-12 over the past few years to produce the 2006 College Readiness Standards with a common college readiness test expected in 2008. The veteran HS math teacher claimed “there is plenty of math in integrated” curricula and said the newer curricula are accessible to more students with more students staying in math longer.

Stine, also a math teacher of many years, called for further alignment work to combine the best materials and a common curriculum with the best prepared teachers. She rejected Brandt’s claim that the most capable students were being short-changed, stating that in Everett 98 students in one HS are in AP, a big shift over five years with tougher classes for younger students. She called for an end to teachers as “free agents” in matters of curriculum and instruction, pointing to other, higher performing countries.

WSU research showed that there has been no marked increase in the proportion of students needing college remediation, Pavelchek reported. He said only 10% of students who took calculus needed remediation compared to 70% at the Algebra 2 level and 60% for pre-calculus. Curiously, level of class was more important than recency.

Prof. Taylor used a PowerPoint to illustrate that algorithm centered math was hatched in a “culture of obedience” and has produced a “nation of math illiterates” where instruction favored only the “math elites.” She said skill follows understanding and noted that if kids don’t see meaning, they drop out of math.

Interested in more? See: What Works Clearinghouse, www.mathematicallysane.com, www.wheresthemath.com

—The Pete Dodson Seminar is in memory of the late Mukilteo SD Assessment Director and past WERA President who had a passion for discussion and debate about important research topics. --Editor

Current literature focusing on assessment and grading for learning practices.

The spotlight on assessment practices is almost blinding as schools and districts struggle to build the professional capacity of teachers and specialists who often have little background in assessment design and utilization. Below are a series of publications which appear to help spark conversations with educators as to why we engage students in assessment tasks and how do we provide useful feedback leading to deeper engagement in the learning process.

Publication Data: *How to Grade for Learning: Linking Grades to Standards*, 2nd Edition by Ken O'Connor, 2002. Corwin Press, Inc, Thousand Oaks, CA. Paperback, 296 pages, \$34.95 (US) ISBN 9781575178165
Ken O'Connor gave a full-day workshop and was a keynote speaker at the March conference.

Ken O'Connor's work appeals directly to practitioners. He speaks to their professional experiences as well to the memories of the many classroom assessment and grading practices which confused and frustrated teachers in their own education. The book's introduction alone stands out as a must-read for practitioners so they may thoughtfully consider how deliberate they are with the decisions about what to assess, when to assess, and how to transition from assessment for learning to assessment of learning. The "guidelines for grading" presented in the introduction are elaborated on and explored in the book's chapters by supporting concepts with prompts tied to scenarios and questions posed for the practitioner's self-reflection. The book culminates in a chapter recommending that though grading and reporting are important, they are meant to reflect quality instruction and assessment practices.

Publication Data: *Classroom Assessment for Student Learning: Doing it Right -Using it Well*, by Richard J. Stiggins, Judith A. Arter, Jan Chappuis and Stephen Chappuis, 2004. ETS Assessment Training Institute, Portland OR, 460 pages, \$58.00 (US). ISBN 978-0-9655101-5-8
Rick Stiggins was a keynote speaker at the March Conference.

The Assessment Training Institute has created a training guide, really a textbook rich in concepts, definitions, activities, models and coaching. It is most practically introduced and explored in a study group or professional development class followed by ongoing use as a reference tool likely to be dog-eared as a result of extensive use. This is definitely more than a book study text; it is several courses in one comprehensive package. Divided into three distinct and detailed parts, the book spans the core principles of assessment *for* learning, assessment methods, and communicating assessment results. Though the book's premise is centered on classroom assessment practices, it inherently speaks to the undeniable interplay between assessment, course design, curriculum and instruction. With the question "What will this mean for the learner?" at the forefront of every decision, Stiggins *et al* have woven the concept of purpose into each topic as well as provided models to illustrate the impact on students. To build in personalization of the content, activities are embedded to engage the teachers in the role of learner. The accompanying CD allows a study group to not only more fully engage in the activities, but also to focus on the ways to more fully involve students in the learning process.

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Publication Data: *Developing Grading and Reporting Systems for Student Learning*, by Thomas R. Guskey and Jane M. Bailey, 2001. Corwin Press, Inc, Thousand Oaks, CA. Paperback, 240 pages, \$32.95 (US) ISBN 9780803968547

Guskey and Bailey give a comprehensive look at both current practice and better practice in classroom, school, and district grading and reporting systems. This book provides a comprehensive overview of the interactions between teachers and students as well as the consistency of school and district policies that work in tandem to impact grading and reporting. The authors set out to provide a framework to use both in understanding of dominant grading and reporting practices as well as for redefining assessment and communication of achievement in order to have a greater, more profound impact on improving student learning. The book is organized around what their discussion with stakeholders generated as “critical questions”. These questions guided their examination of research and led to recommendations related to chapter topics and ultimately a series of guidelines for system reform.

Publication Data: *Transforming Classroom Grading* by Robert J. Marzano, 2000. Association for Supervision and Curriculum Development, Alexandria, VA. ASCD Book, 148 pages, \$22.95 (US) ISBN 0-87120-383-9

Marzano is able to write for the researcher and the interested practitioner alike in his challenge to the imprecision of current classroom grading practices. This book advocates for more than an examination of assessment and grading practice. It calls for a purposeful examination of practice in light of what grading and research indicate is sound practice. Marzano takes on an advocacy role for better grading practices supported by both his own research and a “grounding in grading research and theory.” The book’s chapters cover defining an assessment’s purpose matched to appropriate form, design and scoring tool, course assessment plans allowing for multiple opportunities to learn, and even a mathematical construct, Power Law, which allows for a student’s score to be determined giving greater weight to more recent and consistent performance. The book concludes with the image of a descriptive reporting system, highlighting a student’s strengths and weaknesses in relation to standards as the result of a transformation that will best benefit students.

Publication Data: *Assessment for Learning* by Paul Black, Christine Harrison, Clare Lee, Bethan Marshall, and Dylan Wiliam, 2003. Open University Press, New York, 135 pages, \$35.95 (US) ISBN 0335212972.

Though less comprehensive than some of the other recent publications on the topic of assessment, Black *et al* are able to engage educators with an in-depth report of a study conducted in the United Kingdom. The report shares the work of researchers working with teachers as they were trained in utilizing formative assessment practices to improve student engagement and learning. The book details the development of each teacher’s capacity to put into practice what Black *et al* had determined were high impact formative assessment practices including questioning, feedback through marking, peer- and self-assessment by students, and formative uses of summative tests. The transcripts of the teachers’ interactions with their students over time in areas such as questioning may have an inspirational impact for educators.

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The effectiveness of sharing the narrative exchanges of the teachers in the study as they grapple with “putting into practice” what research indicates improves student achievement shows the shift in beliefs that has promise for seeing real change in teaching practices for the benefit of connecting students to their own learning.

Promising Recent Publications

Publication Data: *Classroom Assessment & Grading that Work* by Robert J. Marzano, 2006. Association for Supervision and Curriculum Development, Alexandria, VA. ASCD Book, 189 pages, \$27.95 (US)
ISBN 1-4166-0422-7

Publication Data: *A Repair Kit for Grading: 15 Fixes For Broken Grades* by Ken O'Connor 2007. Educational Testing Service, Paperback 144 pages, \$28.00 (US)
ISBN 0-7879-7275-4.

*-Reviewed by Jo Anne Buiteweg, Curriculum and Assessment Specialist, Everett Public Schools
Jo Anne works with secondary reform initiatives including standards-based course design and professional practices that help teachers utilize student work as evidence of learning.*



~Ken O'Connor, Canadian keynote speaker on grading practices.



~ Sylvia Dean, winner of the Art Maser Award, and Peter Hendrickson, winner of the Gordon B. Ensign Award



~ WERA President-Elect (left) Nancy Arnold of Puyallup.

Finding a Useful Assessment Data Base

As we amass more and more data about our students, it becomes increasingly difficult to provide practitioners (teachers, principals, and other educators) with data displays that are useful and timely. What if a teacher could see at a glance performance for his class on a specific strand in mathematics – both on the WASL and on district-developed assessments? What if a principal wanted to see how well her staff had done over a three-year period in regards to helping children learn to interpret information from non-fiction texts? Woe betide the assessment specialist who tries to deliver these and a multitude of other requests, using just the state data extracts and Excel!

In discussing this quandary with other assessment directors, we felt it might be worthwhile to examine just what is being used state-wide, and share that information so that we could better make informed decisions regarding purchase/development of database solutions. While everything on this list is being used somewhere in Washington, its presence should not be construed as a recommendation or testimonial. Likewise, the fact that a particular product /solution is NOT on the list does not mean that it is poor – just that no one told me about it!

One of the more interesting findings was the great variability in the positions of data managers responsible for assessment around the state. Larger districts often have directors, managers, or specialists whose sole responsibility is assessment, research and/or data analysis, with several people to assist. In smaller districts, this task is done by one overworked individual, usually a principal, counselor, or data-savvy teacher with plenty of other duties (I requested information from the 190 largest districts in the state, with student populations of over 500.) As a result of this diversity, there was also a wide range in knowledge regarding possibilities for use of data to inform instruction. To assist understanding, I offer the following "definitions" for this subject.

Student Information Systems (SIS) represent the basic

level in terms of data management for school districts. This is the structure that houses all of the state-required student data, such as personal data, attendance, grades, credits earned, state test scores, et cetera. Often included with student data is fund accounting software. Most of these systems have limited abilities for data display and manipulation, although some are better than others. Most familiar to many is the WESPaC/SKYWARD system, but others are used around the state. I list many of the SISs used around the state below, however our primary interest was with the next category of data solutions.

Data Storage/Association/Display Tools (DSADTs) are the next level. While all districts must have student information systems, their limitations on data manipulation and reporting mean that education practitioners often get data about their students' learning too late to assist in improvement, and in a form that is too general to be of much assistance. Getting last year's WASL results in November can help inform instruction for the current year, but the goal should be to provide teachers with information in time to be helpful for their current students, as well as telling them what might have gone wrong the previous year. As one wag states, "Better to have several physical exams during the year than one post-mortem later." Further, general information such as a list of students with their WASL results does not make the best of available data. Some of these DSADTs described below are primarily set up to squeeze more information out of last year's WASL data, while other tools allow nearly immediate feedback to teachers and principals of local assessment data as well.

Data Analysis Tools (DATs) are the highest level. These are tools for statistical analysis, and while useful for more complex tasks, these were not the primary focus of this article. Assessment specialists interviewed discussed at least three products used for this level of analysis (SPSS, SAS and JMP); for those interested, a 2005 survey listing these and others can be found at the following

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website:

<http://www.lionhrtpub.com/orms/surveys/sa/sa-survey.html>

I have listed (to the best of my knowledge) the districts using each solution after each description, as well as websites or contact information.

Student Information Systems:

In case districts are interested in changing their SIS, these products were listed by assessment directors in their survey replies:

eSIS [*Tacoma, Northshore, Clover Park*]

www.aalsolutions.com/index.php?option=com_content&ask=view&id=49&Itemid=3

Pentamation [*Bellevue, Everett, Federal Way, Puyallup*]

www.pentamation.com/k12/index.htm

Pinnacle System [*Bellevue*]

www.excelsiorsoftware.com/solutions/sys_pinn.aspx

PowerSchool [*Kennewick, LaCenter, Mossyrock, Pasco, Sultan, Sunnyside, Toutle Lake*]

www.powerschool.com

SchoolMaster [*Aberdeen, Centralia, Royal, Rainier*]

www.schoolmaster.com

WESPaC/SKYWARD [*Too many districts to list!*]

<http://www.wsipc.org/>

Data Storage/Association/Display Tools:

I'll start with a few "home-grown" products. These have been developed locally for Washington school districts, and will work for districts who already use SKYWARD or something similar for their student information system.

The most commonly used system state-wide is the **Assessment Management System** (AMS), and has been developed by Doyle Consulting (formerly Browning.) This system, used by 38 Washington districts, has been

around for a number of years, and stores information in a data warehouse of hundreds of fields. Standardized reports are then generated using the data from this warehouse. Due to the large number of districts using this solution, the number of reports developed to date is also large; in addition, when new reports are requested by one district they can be made available to all. While everyone interviewed about this product had nothing but praise for the customer service, three concerns were raised: 1) The use on a less-powerful database platform (FileMaker Pro) was somewhat limiting; 2) The dependence on "canned" reports means that more creative or advanced data analysis is difficult, and 3) Most reports seem to be summative in nature, with little allowance for continuous, diagnostic/prescriptive data analysis. Despite these seeming limitations, the long list of using districts, modest cost, and attention to customers makes this solution one worth looking into. [*Burlington-Edison, Camas, Centralia, Chimacum, Clover Park, Eastmont, Evergreen (Clark), Grandview, Granite Falls, Kelso, Kennewick, Lake Stevens, Longview, Mabton, Manson, Medical Lake, Moses Lake, Mount Vernon, North Franklin, North Kitsap, North Thurston, Olympia, Omak, Orting, Othello, Prosser, Shelton, Snohomish, South Kitsap, Stevenson-Carson, Sunnyside, Toppenish, University Place, Wapato, Warden, Wenatchee, West Valley, Yakima*] No website; contact Harry Doyle at (360) 680-9014.

Another Washington-based solution has been developed by Duane Duxbury. He currently works with districts in two ways: He works as a partial-time employee for two to five districts, and he also consults with at least five others. Duane's mission is to help districts build capacity to develop and maintain their own DSADTs. His product combines data from state tests, local assessments, and student demographic data, and produces reports for teachers and principals, including student learning plans and report cards. His stated goal is to help districts help themselves, not to become tied to a

(Continued on next page)...

contract with others. One requirement is that each district assign a tech-savvy employee to learn to maintain the system so Duane can move on to others.

[Contracted Districts: *Arlington and Franklin Pierce* (current); *Blaine, Ferndale, and Mount Vernon* (2007). Consulting Districts: *Oak Harbor, Peninsula, South Kitsap, Spokane, Stanwood, Sultan, Tacoma*] No website; contact Duane Duxbury at (206) 650-0280.

Educational Data Solutions specializes in helping mid-sized and smaller districts with data needs. They host the district information; can automatically upload demographic and other data from the district SIS; and get direct downloads from OSPI for WASL data (which allows much quicker access to the data.) Districts can add other local assessment data for an additional fee. Teachers receive passwords that allow them to view historical and current assessment data for current students, as well as the capability to follow former students as they progress. A plus for this solution is that it does not require a dedicated IT/data employee to keep the system working. Clients I spoke with seem very satisfied. [*Auburn, Enumclaw, Mercer Island, Nooksack Valley, Northshore, Sedro Woolley, South Whidbey*] website: www.nweds.com

Finally, we have the "big boys": companies who work nation-wide and provide data services to school districts. The products listed are made specifically for schools; others can be found that are more general in nature. Most require at least one internal "data expert" to keep things running smoothly. Costs in this group are usually higher but there is often the increased flexibility and number of services.

EduSoft is a multi-purpose product. Their "State Analysis" module allows districts, schools, and teachers to analyze WASL results, as well as combine results with district assessment data (as do most DSADT products). In addition, they provide computer-based benchmark assessments that are claimed to be aligned to state standards, as well as a collection of assessments designed to accompany text materials from a number of different publishers. [*Centralia, Mount Baker, Seattle*] website:

www.riverpub.com/products/edusoft/index.html

just5clicks is a data analysis tool that uses a "data warehouse". Data from the district SIS is automatically downloaded to this data warehouse, and the district assessment department manually uploads district assessment data to secure website. Local educators can then view data through "Smart Slides" (classroom, school, or district data.) Also available are "Teacher Assistant" (for following student progress), an "Interactive Progress Card" and Portals allowing parents and students to view progress. [*North Mason, Shelton, Sumner*] website: <http://www.just5clicks.net/>

Pinnacle Analytics is a data analysis tool that seems to be much more flexible and powerful than traditional tools, allowing users to make complex and/or longitudinal data requests as well as offering a number of standard reports. Initial setup is somewhat costly and labor-intensive, but the capabilities are extensive. PA can be set up to work with existing student information systems; alternatively the parent company (Excelsior Software) offers its own SIS (Pinnacle System), as well as an electronic gradebook produced with Robert Marzano. [*Federal Way, Bellevue*] website:

http://www.excelsiorsoftware.com/data_services/rpt_pinnAn.aspx

TetraData is another data warehouse solution that has been used for more than five years by Edmonds School District. While automatic uploads from the district SIS are possible, some districts have found the data is cleaner if manually uploaded on a quarterly or monthly basis. Data analysis tools are powerful and flexible, but development of local talent is a must. Most users rely on standard reports, but the capability for more detailed data-digging is there. [*Bellingham, Edmonds*] website: www.tetradata.com/

There were other large companies working in Washington Schools, but their products tend to be more general in nature (rather than specific to education), and their sales staff were reluctant to provide information for this survey.

Continued on next page...

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Many thanks to many busy district assessment directors around the state who helped in the preparation of this article, either by responding to emailed requests for information, time spent with me on the telephone, or both.

-- Bruce Kelley, Ph.D., Director of School Improvement
Battle Ground Public Schools



~ Rick Stiggins, ETS ATI Institute keynoter on assessment for learning



~ Pete Dodson Symposium Moderator Dave Ross of KIRO radio and (from left) panelists Cathy Taylor (OSPI/UW), Mary Ann Stine (Everett PS), Dave Pavelchek (WSU SSRC), Ron Donovan (OSPI) & Robert Brandt (Where's the Math?)



~ Birthday celebrants Jeanne Bauer and Deb Ritchhart, Everett Instructional Facilitators for Literacy



~ Student Pianist Hyoeun Kim with her Explorer Middle School (Mukilteo) teacher Anita Valdez

WASL Patterns in Meeting Standard

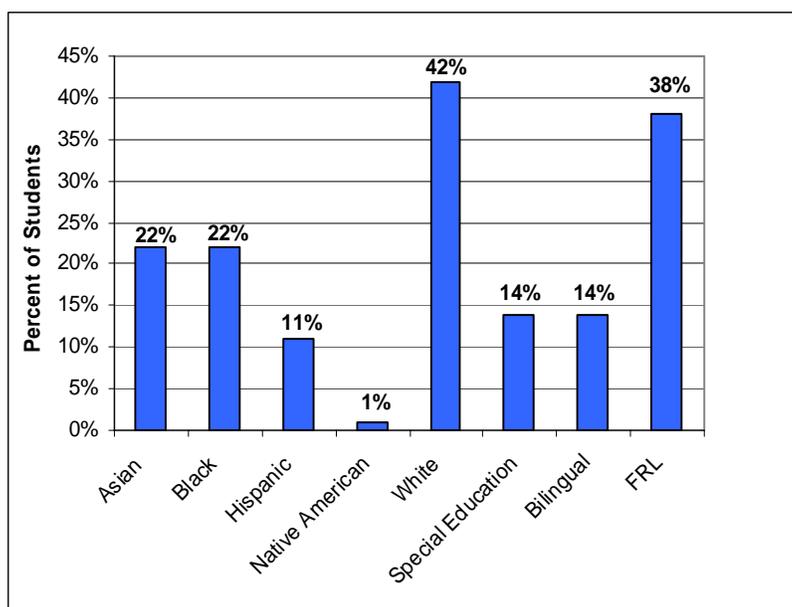
Do Seattle Public Schools students show predictable WASL testing patterns (passing or not passing) in fourth, seventh and tenth grade? Our research suggests that for a sample of tenth graders in 2006, passing the WASL in fourth grade was a strong predictor of passing in tenth; likewise, failing in fourth grade predicted failing in tenth. A relatively small number of students “bounced” from failing to passing or from passing to failing, yet we found no particular pattern to help us understand this group.

Students who passed at all three levels in either reading or math tended to be proportionally more white than the district, and less likely to qualify for free and reduced lunch (FRL) or be served by the bilingual or special education programs. Students who failed at all three levels were more likely to be students of color and qualify for FRL than the district average.

Methodology

We created two cohorts of students who were in a Seattle comprehensive high school in tenth grade in 2006 and who had WASL scores at fourth, seventh, and tenth grade in math or in reading. While the reading cohort includes slightly fewer students than math (1,435 versus 1,565), the demographics of the two groups are identical (figure 1). Our sample reflects the racial proportions of the district; however, it includes fewer students who qualify for FRL or are served by the bilingual or special education programs.

Figure 1. Demographics of Seattle Public Schools (December 2006)



Math Results

Our results show that 75% of students who met standard in math on the WASL in fourth grade went on to pass in seventh and tenth, while 63% of students who did not meet standard in fourth went on to fail in seventh and tenth (figure 2). Students who passed math at all three intervals (figure 3) did not reflect the racial distribution of the district as a whole: more are white (64%) and Asian (26%); fewer are black (4%) and Hispanic (5%). Fewer students than the district average qualified for FRL in tenth grade (12%) and in fourth (14%). By tenth grade, no one in this group was served by the bilingual program; less than 1% was in special

education. Of those who failed three times in math, students were more likely to be black (38%), qualify for FRL (61% were FRL in fourth and 44% FRL in tenth), and less likely to be white (24%) than the district.

Figure 2. Students who passed or failed the mathematics WASL at all three levels

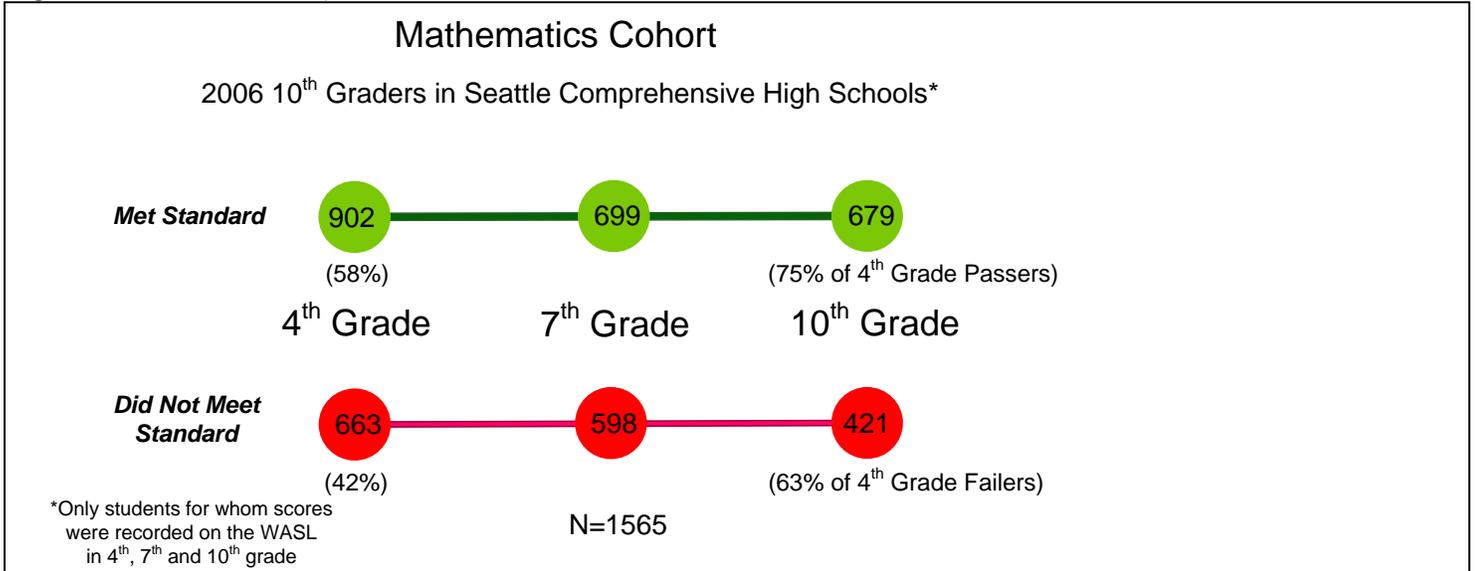
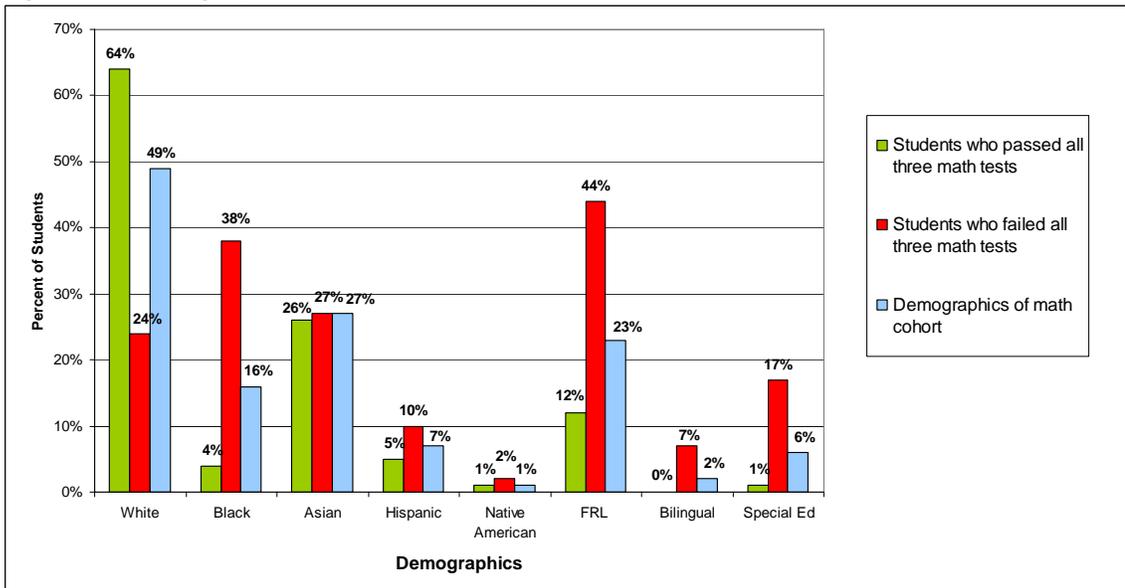


Figure 3. Demographics of students who passed or failed all three math WASL tests



Reading Results

For the reading cohort, 80% of students who met standard on the fourth grade WASL went on to meet standard in seventh and tenth. Of those who failed in fourth, 35% failed again at seventh and tenth (figure 4). The demographics of students who passed reading at all three levels are almost identical to those who passed math (figure 5). Of those who failed three times in reading, the group differs from the math cohort in that more are black (48%), fewer are white (17%), and more qualify for bilingual services (13%) or special education (42%).

Figure 4. Students who passed or failed the reading WASL at all three levels

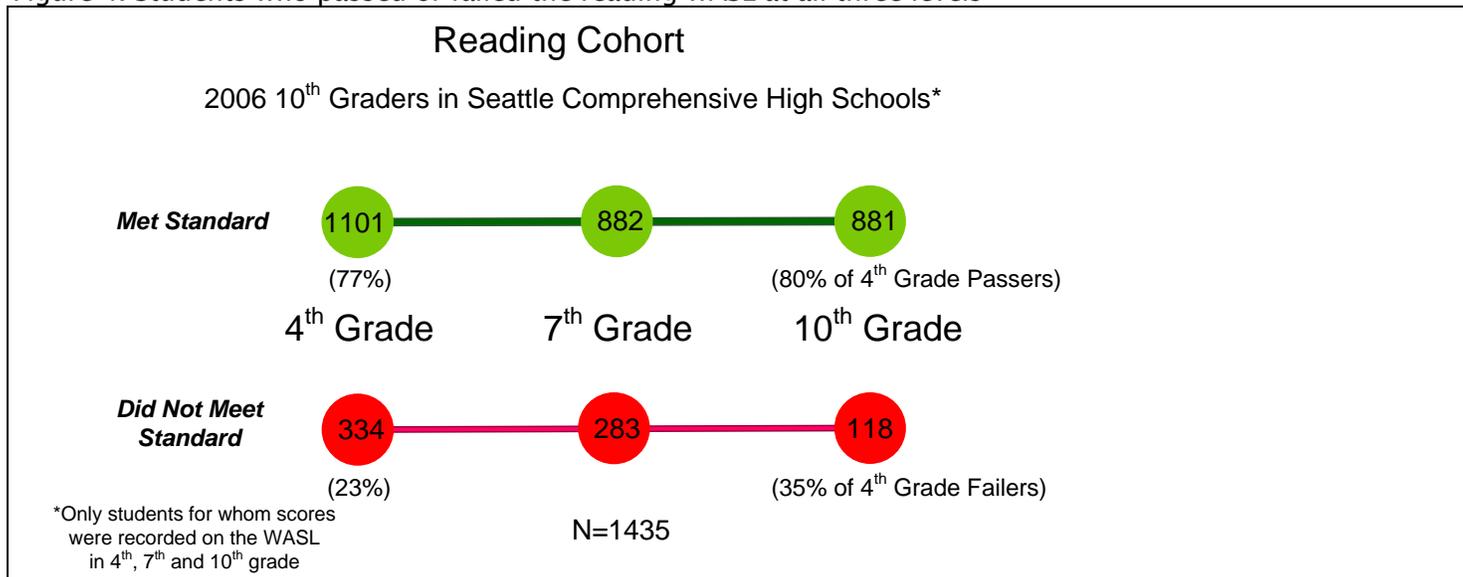
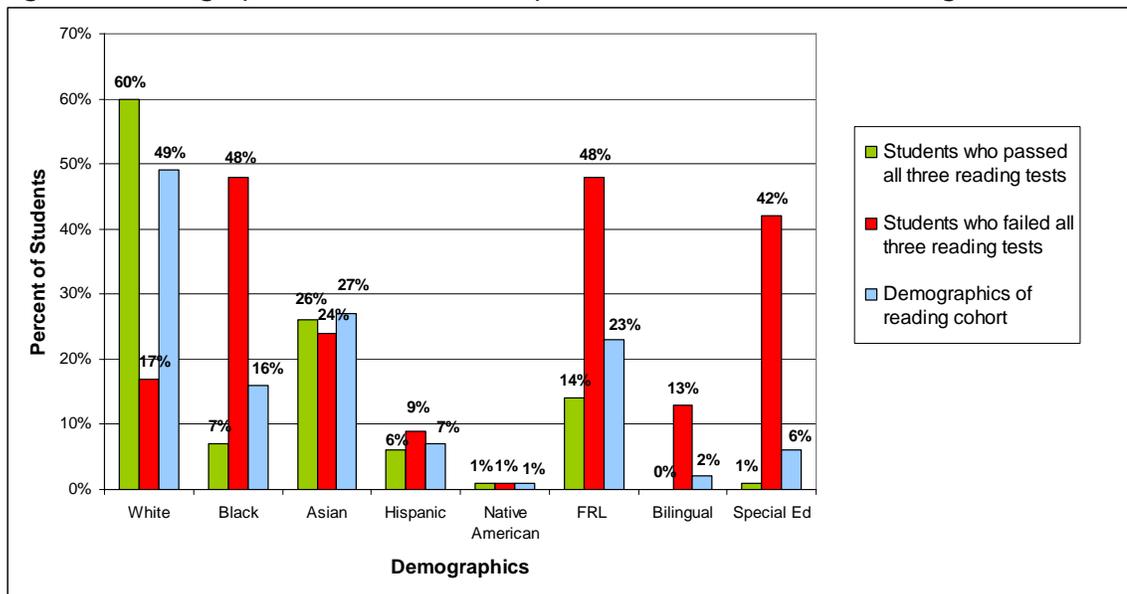


Figure 5. Demographics of students who passed or failed all three reading WASL tests



Change in Cut-Scores in 2004

In 2004 the WASL cut scores (the points at which students meet standard at each of the four levels) were lowered by about nine scale score points for math and about six scale score points for reading. Because the change occurred between the seventh and tenth grade tests, it might be unreliable to compare pass rates on the two intervals. However, recomputing the seventh grade scores reveals that only six students in math and three students in reading would no longer fit the group who failed three times. Therefore the change in cut scores does not affect our analysis.

--Erin Guest, Program Evaluator, Seattle Public Schools, ebquest@seattleschools.org

Julianne McNalley, Ph.D., Program Evaluator, Seattle Public Schools, jumcnalley@seattleschools.org

Stupid Excel Tricks for Assessment Folks

The following are a few Excel tips that I frequently use in working with large data sets.

Finding Duplicate Records

Let's say you have an Excel spreadsheet with many, many records and you want to quickly determine if there are duplicate records. For this example I will use the preliminary CSRS for our district. First, open the CSRS file and it should look like the following (I added formatting and changed student names and numbers):

	A	B	C	D	E	F	G	H	I
1	SchoolYear	Collection Period	SSID	Serving District	District StudentId	Last Name	First Name	BirthDate	Gender
2	2006-2007	2	4570044926	27010	1025750	Than	Ashley	07/21/89	M
3	2006-2007	2	4035325517	27010	1027127	Cutler-Lucier	John	10/16/89	M
4	2006-2007	2	5125168177	27010	1033244	West	Matthew	01/13/91	M
5	2006-2007	2	9796482297	27010	1036153	Crittenden	Hang	01/29/90	M
6	2006-2007	2	1147393532	27010	1039299	Sisopha	Jaquan	04/16/90	M
7	2006-2007	2	6360570930	27010	1040366	Williams-Turner	Dominique	05/02/88	M
8	2006-2007	2	9683235614	27010	1042336	Baranda	Sarah	08/14/91	F
9	2006-2007	2	8020026357	27010	1042847	Hernandez	Evan	07/19/89	M
10	2006-2007	2	6460335825	27010	1042913	Hernandez	Sasha	02/07/89	M
11	2006-2007	2	9057589456	27010	1043346	McFann	Ralph	09/27/90	M
12	2006-2007	2	9241504887	27010	1043450	McCreary	Anthony	06/13/90	M

Getting Started

Question: How do you quickly determine if you have two students with the same SSID? Here are the steps I use:

- Sort the file by SSID

	A	B	C	D	E	F	G
1	SchoolYear	Collection Period	SSID	Serving District	District StudentId	Last Name	First Name
2	2006-2007	2	4570044926	27010	1025750	Than	Ashley
3	2006-2007	2	4035325517	27010	1027127	Cutler-Lucier	John
4	2006-2007	2	5125168177	27010	1033244	West	Matthew
5	2006-2007	2	9796482297	27010	1036153	Crittenden	Hang
6	2006-2007	2	1147393532	27010	1039299	Sisopha	Jaquan
7	2006-2007	2	6360570930	27010	1040366	Williams-Turner	Dominique
8	2006-2007	2	9683235614	27010	1042336	Baranda	Sarah
9	2006-2007	2	8020026357	27010	1042847	Hernandez	Evan
10	2006-2007	2	6460335825	27010	1042913	Hernandez	Sasha
11	2006-2007	2	9057589456	27010	1043346	McFann	Ralph
12	2006-2007	2	9241504887	27010	1043450	McCreary	Anthony
13	2006-2007	2	8148513535	27010	1043706	Roberts	Sophan
14	2006-2007	2	2501259873	27010	1043706	Roberts	Sophan
15	2006-2007	2	8476643344	27010	1043706	Roberts	Sophan

Sort

Sort by Ascending Descending

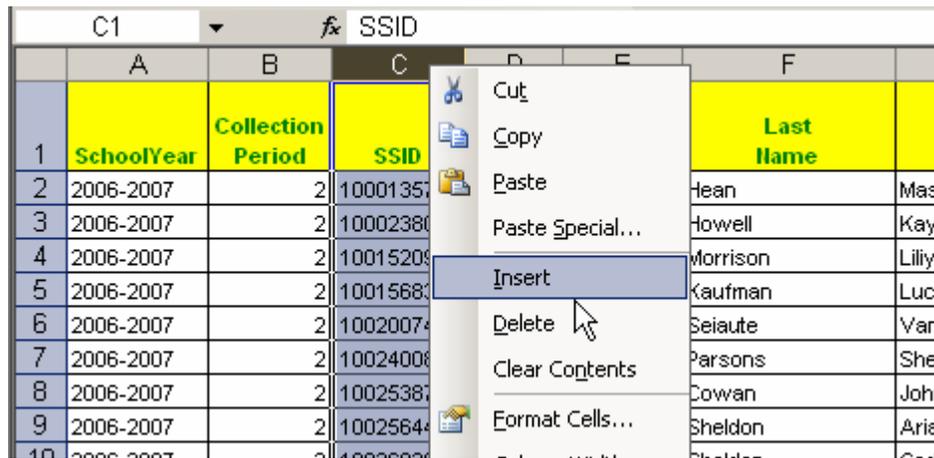
Then by Ascending Descending

Then by Ascending Descending

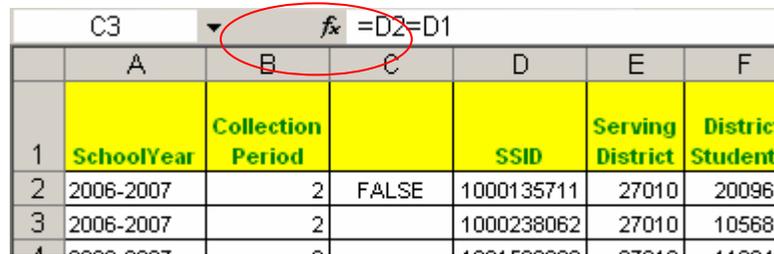
My data range has Header row No header row

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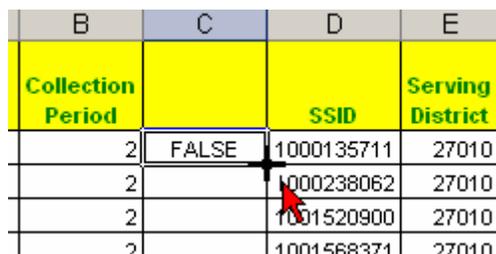
- Next, select the entire **column C** and insert one blank column.



- In cell **C3** insert the formula `=D2=D1` then press **[Enter]**. The formula asks “Are the contents of cell **D2** equal to the contents of cell **D1**?” The answer is “**FALSE**” because the cells are different.



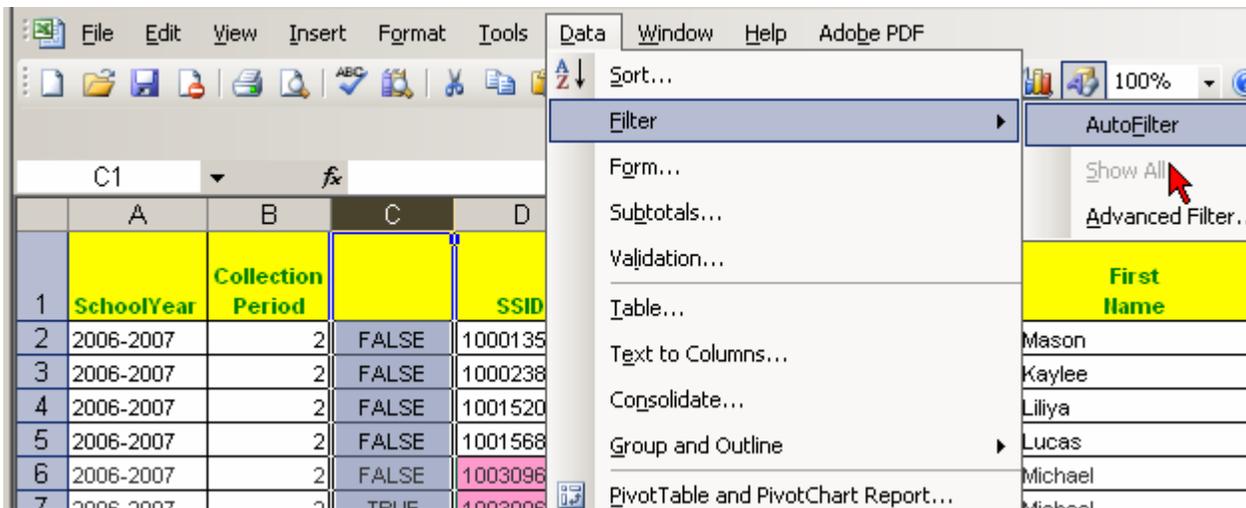
- Next, (this is tricky but not too tricky) highlight the cell **C2** and put your pointer in the bottom right corner until you see a + displayed. It should look like this:



Double click the + and the formula will fill down. Notice that the records in rows 6 and 7 are the same. According to our Excel formula in cell C7 the question is asked; “Are the contents of cell D7 equal to the contents of cell D6?” ... and the answer is “TRUE”.

	A	B	C	D	E	F	
1	SchoolYear	Collection Period		SSID	Serving District	District StudentId	
2	2006-2007	2	FALSE	1000135711	27010	2009669	Hean
3	2006-2007	2	FALSE	1000238062	27010	1056845	Howe
4	2006-2007	2	FALSE	1001520900	27010	1102432	Morris
5	2006-2007	2	FALSE	1001568371	27010	2002632	Kaufr
6	2006-2007	2	FALSE	1003096354	27010	1097490	Altma
7	2006-2007	2	TRUE	1003096354	27010	1097490	Altma
8	2006-2007	2	FALSE	1002538752	27010	2023596	Cowe
9	2006-2007	2	FALSE	1002564489	27010	1102033	Sheld

- Since there are over 30,000 records we need to find a quick way to display all the duplicate records. This can be done by filtering as follows: Highlight column C then select [Data], [Filter] then [AutoFilter].



- You will notice that when the column is filtered a gray box with a triangle appears. Scroll and select “TRUE”.

	A	B	C	D	E
1	SchoolYear	Collection Period		SSID	Servi Distri
2	2006-2007	2	Sort Ascending	1000135711	270
3	2006-2007	2	Sort Descending	1000238062	270
4	2006-2007	2	(All)	1001520900	270
5	2006-2007	2	(Top 10...)	1001568371	270
6	2006-2007	2	(Custom...)	1003096354	270
7	2006-2007	2	FALSE	1003096354	270
8	2006-2007	2	TRUE	1003096354	270

- Bingo! The resulting filtered list of “TRUE” is all of your duplicated student SSID records. Once you have isolated the list you can copy to another worksheet, select and delete or highlight in a shade (as I have done below in pink).

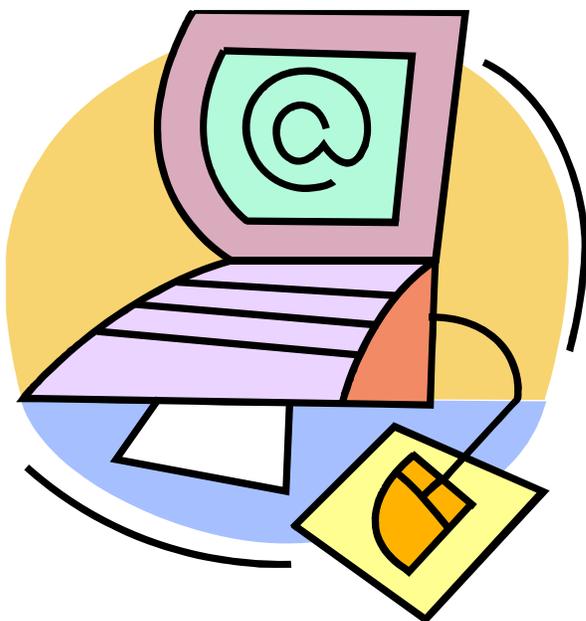
	A	B	C	D	E	F	G
1	SchoolYear	Collection Period		SSID	Serving District	District StudentId	Last Name
7	2006-2007	2	TRUE	1003096354	27010	1097490	Altman
15	2006-2007	2	TRUE	1012547269	27010	1097490	Jones
20	2006-2007	2	TRUE	1020717332	27010	2029199	Jones
29	2006-2007	2	TRUE	1042739358	27010	1086306	Roger
40	2006-2007	2	TRUE	1007839598	27010	1085155	Clark
43	2006-2007	2	TRUE	1008308469	27010	1056811	Clark

Conclusion

There you go.... 30,000 records and, in less than a minute, all the duplicates records have been identified. For sure, this qualifies as a “Stupid Excel Trick”. Enjoy.

--Patrick Cummings, Director of Research and Evaluation, Tacoma Public Schools.

A Few Favorite Links



www.random.org

This is a true random number service built and maintained by a lecturer at the University of Dublin, Trinity College.

www.improbable.com/about/

Improbable Research makes people laugh, and then makes them think.

www.jir.com

Journal of Irreproducible Results. Targets hypocrisy, arrogance, and ostentatious sesquipedalian circumlocution. We're a friendly escape from the harsh and the hassle. JIR makes you feel good ☺.

www.animatedknots.com/

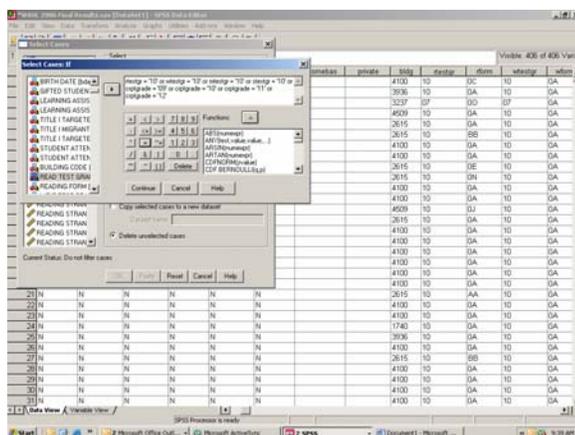
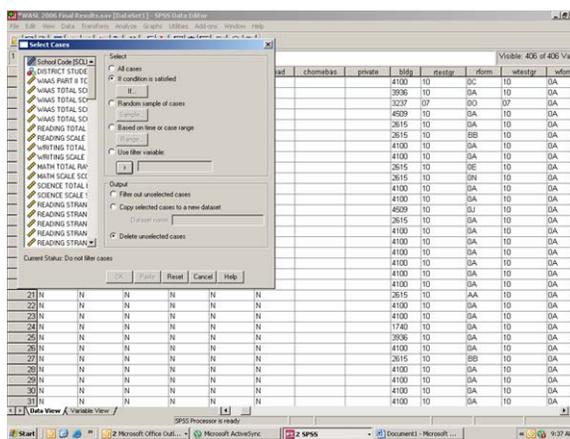
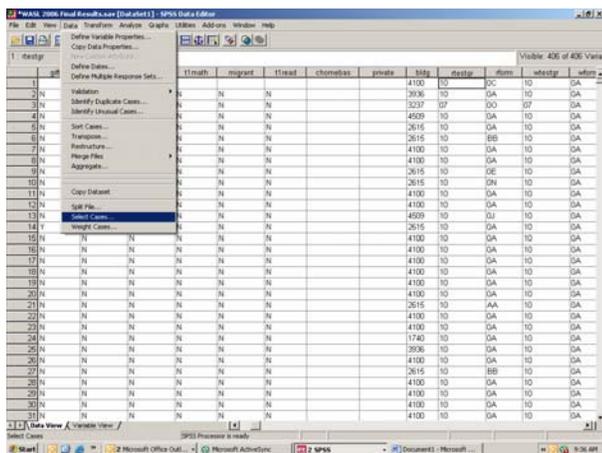
This is the site we showed our jeweler to design rings using a climbing knot. But there's more...

-Editor

Using SPSS to Identify HS Students Highest WASL Scores and other “Aggregate Functions

One of the best functions in SPSS is “Aggregate”. For years I used it to identify duplicate cases which I would then scan to figure out why I had multiple records for a student. It was also useful when I received electronic CogAT scores for students that had one record for each test a student took—meaning one record had the verbal test scores, the next record had the quantitative scores, the third record the non-verbal, etc. The common identifiers on each record were the students’ names and their district ID numbers.

So how can you use that function to identify the highest WASL scores a student has achieved? First, you will need to merge files containing the score from the various administrations. Open the results from the spring 2006 administration of WASL. Next select students taking the 10th grade test. The goal is to create a file that only contains HS data.



Once you have a file that ONLY contains HS results, you need to do a quick File, Save AS and give this file a new name indicating it is HS data!!! You don’t want to risk writing over a file that contains data from multiple years.

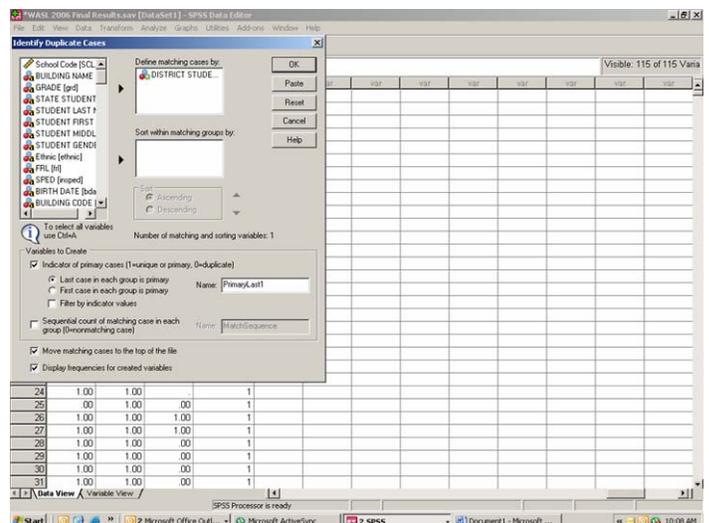
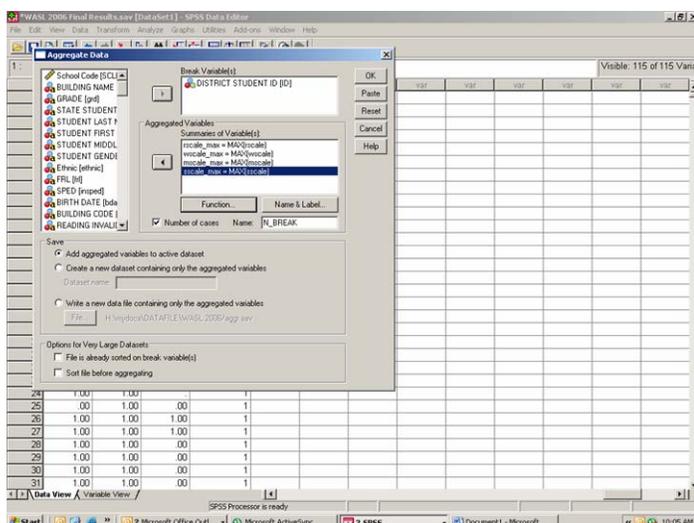
Now it's time to add in August 2006 data. You will need to have this data saved as an SPSS file. (If not, you will need to open the file with SPSS and save it as an SPSS file.) If you are using SPSS version 14 or 15, you may have more than one file open at a time. Otherwise, you need to close your HS file, open your August file, save it as an SPSS file, and reopen your HS file.

Now do a Data, Merge Files, Add Cases. You may need to browse to find the August file. Select the file that contains your August data and select Open. SPSS will then list the variables the two files have in common. At this point we are most interested in having student numbers (District and State), last name, first name, rscale, wscale, mscale, and sscale—the scale scores in common. (To match files, the variables have to be the same kind (string or numeric) and be the same length or size.) You may need to check the variable view on each file to ensure that the variable names, types, and sizes match.

Once you are sure that the combined file will contain the variables you need, select OK. Your file will now contain your spring HS test scores and your August test scores. Hopefully there are a number of duplicates in the file!!!

Now select Data Aggregate. Under break variable select District Student ID. For the variables you want to aggregate select rscale, wscale, mscale, and sscale. The default aggregate function is the mean, so for the purposes here you will want to select Function, and then under Specific Values, "Maximum". This will create a new set of variables which contain the "maximum" test scores the student has received. If you are using versions 14 or 15 on a Windows machine it will place these values at the end of each record for the student. If you are using an earlier version, or a Mac, see below.

If you are using versions 14, or 15 on a Windows machine you are now almost done. Next run, Data, Identify Duplicate Cases, and Identify Duplicate Cases by ID. It will create a new variable called PrimaryLast and assign a 0 to all but the last record, and a 1 to the last record. Next do a Data Select Cases, and Select IF PrimaryLast = 1. Select "Delete Unselected Cases". Now you have a file that only contains students' Highest WASL scores. Unless you have changed the variable names, the maximum scores will be found under rscale_max, wscale_max, etc.



Now, you want to know if the new scores met standard or not. Here is where syntax comes in handy. Select File New Syntax, and type or copy the following commands into your syntax.

```
String RStdMax WStdMax MStdMax SStdMax (A3).
IF (rscale_max >= 400)RStdMax='YES'.
IF (rscale_max < 400)RStdMax='NO'.
IF (wscale_max >= 17)WStdMax='YES'.
IF (rscale_max < 17)WStdMax='NO'.
IF (mscale_max >= 400)MStdMax='YES'.
IF (mscale_max < 400)mStdMax='NO'.
IF (sscale_max >= 400)SStdMax='YES'.
IF (sscale_max < 400)SStdMax='NO'.
execute.
```

Select all of the syntax, and hit the run syntax arrow.

Now you will have a file that has a students highest test scores and whether or not they achieved standards. If you want to determine the level of their highest scores you could also write syntax that would compute that. The difference between level 1 and level 2 in reading, mathematics, and science is 375.

```
String RLVLMMax (A2).
IF (RScale_Max < 375)RLVLMMax='L1'.
IF (RScale_Max >= 375 and RScale_Max < 400) RLVLMMax = 'L2'.
Execute.
```

The cut score between levels 3 and 4 varies by test, so to continue to write the syntax code to create Levels 3 and 4, you would need to know the cut scores for those tests.

Aggregate for Earlier or Mac Versions of SPSS

If you are using an earlier version of SPSS, or SPSS on the Mac, you can still use the Aggregate function. You will need to sort your file by ID first and save this file as "HS file with Spring and Fall Data". Next run Aggregate. SPSS will create a new file containing ONLY ID's and the aggregated variables. You can open this file and compute a new variable called "AGG" and set it equal to one. Next you would merge this file with your original file, using Data, Merge, Add Variables. You will merge on district ID. The file will match the first ID it comes to, add the new variables, and leave subsequent records blank. You can now Data Select Cases, and select if AGG=1, deleting unselected cases. This will give you a record that includes the maximum scores along with the students' names, schools, etc. It will also contain potentially erroneous "levels", or "strand data". However, these variables can be deleted from the file, retaining only the variables you need to determine highest scores. Then you can go back to running the syntax for identifying standards met, etc.

This may be too complicated to be worth the effort, but believe me, once you get into it, you'll find it easy to do. The most important thing to remember is, if you start selecting data, and deleting unwanted data be sure to use the FILE SAVE AS function, and give the file a new name—otherwise you risk overwriting a file that has important data you don't want to lose.

If you have questions, or want to be walked through the process, you can call me at 360-662-1736.

--Linda Elman, Ph.D., Director, Research and Evaluation, Central Kitsap School District. Linda collaborated with her colleague and co-presenter (Spring WERA Conference) Nina Potter, Ph.D., Assessment Director, Shoreline School District.

WERA Board Goals for 2006-2007

- Improve communications with our members through
 - Publishing more frequent and informative newsletters (Standard Deviation)
 - Posting conference presentations on the WERA website
 - Reviewing and revising the WERA website as needed
- Provide at least two additional professional development activities besides the two annual conferences
- Clarify the responsibilities and expectations of board members
- Add at least one additional form of recognition (e.g., Outstanding Dissertation)
- Increase association membership by 5 percent
- Maintain the current budget balance
- Initiate contact with higher education institutions regarding posting or reporting their dissertations



Using SPSS Graphs to Visualize Your Data

This paper describes the use of SPSS output and graphs to visualize data. Graphs provide an overview of the data and possible insights that may not be apparent from statistical output. For more complete information on generating output and graphs, please use the link [Using SPSS Graphs to Visualize Data: Procedures](#). For sample data, I randomly selected 100 cases from a statewide student data set, referred to here as the “Cascadian Assessment of Student Performance” or “CASP”. Since this is a hypothetical data set, results and any conclusions should not be generalized to the population of this assessment or any other student assessment.

Frequency tables list each score in the score distribution, and provide percentile scores, shown under Cumulative Percent. The frequency table below shows the CASP Reading Scale Scores for 100 students:

Reading Scale

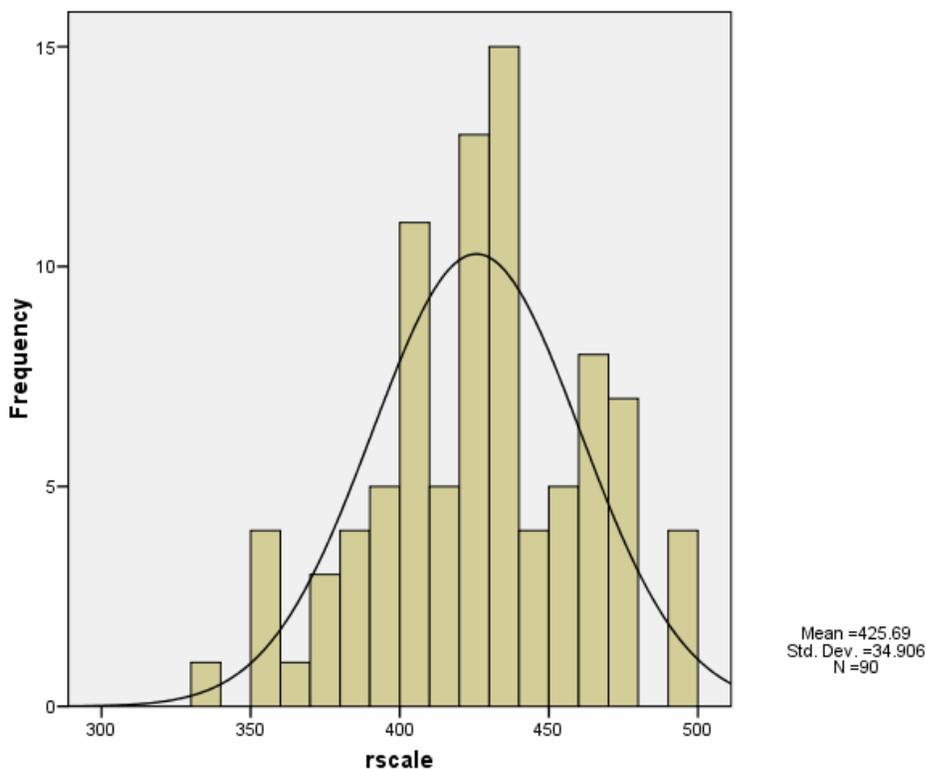
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	333	1	1.0	1.1	1.1
	350	1	1.0	1.1	2.2
	353	1	1.0	1.1	3.3
	356	2	2.0	2.2	5.6
	369	1	1.0	1.1	6.7
	377	1	1.0	1.1	7.8
	379	2	2.0	2.2	10.0
	382	1	1.0	1.1	11.1
	387	2	2.0	2.2	13.3
	389	1	1.0	1.1	14.4
	392	3	3.0	3.3	17.8
	393	1	1.0	1.1	18.9
	398	1	1.0	1.1	20.0
	400	3	3.0	3.3	23.3
	403	5	5.0	5.6	28.9
	407	3	3.0	3.3	32.2
	410	2	2.0	2.2	34.4
	414	2	2.0	2.2	36.7
	417	1	1.0	1.1	37.8
	422	6	6.0	6.7	44.4
	427	7	7.0	7.8	52.2
	431	7	7.0	7.8	60.0
	437	8	8.0	8.9	68.9
	443	4	4.0	4.4	73.3
	451	5	5.0	5.6	78.9
	461	8	8.0	8.9	87.8
	474	7	7.0	7.8	95.6
	495	4	4.0	4.4	100.0
	Total	90	90.0	100.0	
Missing	System	10	10.0		
Total		100	100.0		

Continued on next page...

Interpretive comments: This looks like a relatively easy test. A score of 400 meets standard; 427 is at the 52.2 percentile, that is, about 52% of the students have scores of 427 or below and about 48% have scores above this point. Valid percent differs from percent when there are missing cases, but in this distribution there are no missing cases.

Research Question: Do what extent do scores on the Reading CASP follow a bell shaped curve?

Histogram showing score distribution of Reading Scale Score, with normal curve superimposed

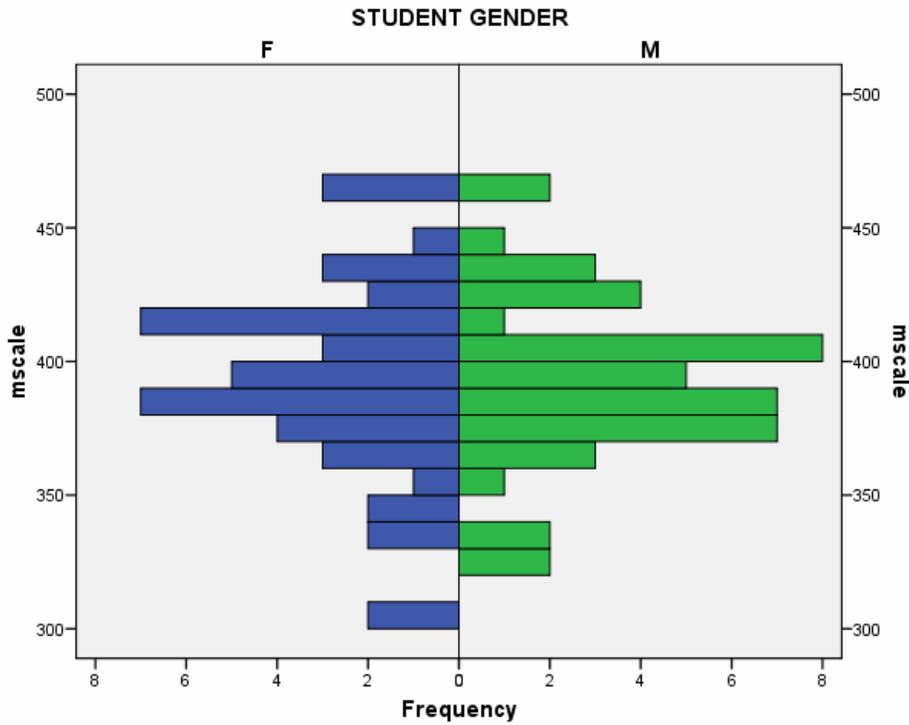


Interpretive comments: The Reading CASP for grade 10 is relatively easy, with the majority of students above 400. The modal scores fall between 400 and 450. Notice how this distribution does not “stay in the lines” of the normal curve. The peak in the distribution is much higher than the high point of the bell curve, with scores more centered in the middle than the “bell.”

Tip: All graphs were made using the Legacy Dialogs graphs. I cut and pasted these graphs into Excel, and from Excel into Word. This seemed to produce the best results. How to edit graphs may be presented in a future presentation. For now, I recommend clicking on the graph to see how the various editing functions work.

Research Question: Do female and male students score differently on the Reading CASP?

The Population Pyramid shows score distribution for Math Scale Score by gender.



Interpretive comments: Notice how the two distributions are not symmetrical. Female students have scores that are both higher and lower than male students. In general, female students have higher scores than their male counterparts.

Research question: Do the ethnic groups in this sample have approximately equal numbers of female and male students?

ethnic * gender STUDENT GENDER Crosstabulation

Count

		gender STUDENT GENDER		Total
		F	M	
ethnic	1 AMERICAN INDIAN ALASKA NATIVE	3	8	11
	2 ASIAN	8	4	12
	3 BLACK AFRICAN AMERICAN NOT OF HISPANIC ORIGIN	4	11	15
	4 HISPANIC LATINO	7	3	10
	5 WHITE NOT OF HISPANIC ORIGIN	28	24	52
Total		50	50	100

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.780(a)	4	.067
Likelihood Ratio	9.068	4	.059
N of Valid Cases	100		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.00.

Interpretive comments: In this sample, gender and ethnicity are not related, that is, there are about the same number of female and male students in each ethnic group, with differences due to chance and a possibly small sample. Chi-square is greater than .05, so is not significant

Research Question: What are the correlations among the Reading, Writing, Math, and Science CASPs?

Correlations

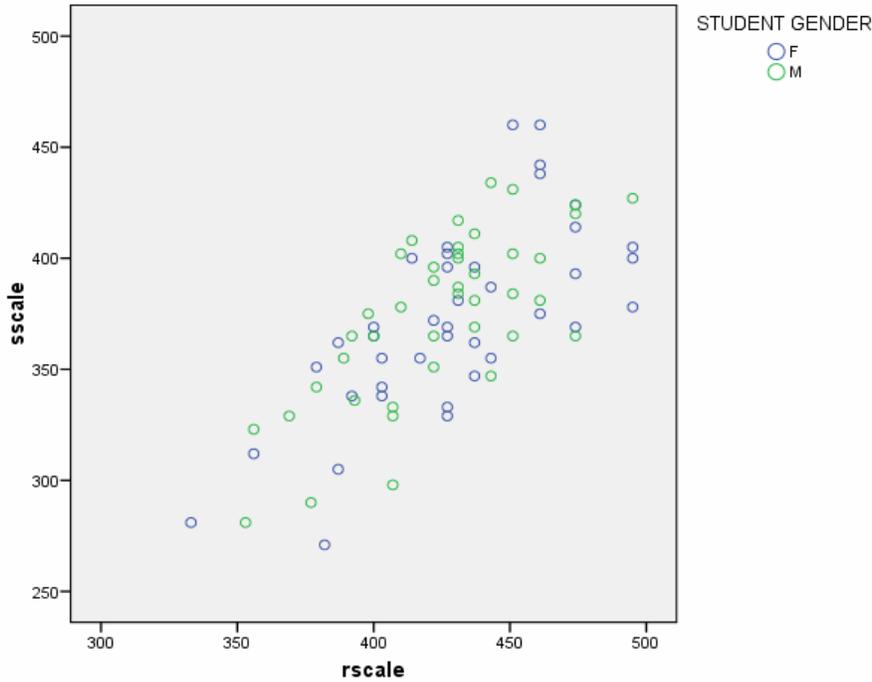
		RSCALE	WSCALE	MSCALE	SSCALE
RSCALE	Pearson Correlation	1	.669(**)	.672(**)	.710(**)
	Sig. (2-tailed)		.000	.000	.000
	N	90	88	88	82
WSCALE	Pearson Correlation	.669(**)	1	.654(**)	.591(**)
	Sig. (2-tailed)	.000		.000	.000
	N	88	89	87	81
MSCALE	Pearson Correlation	.672(**)	.654(**)	1	.738(**)
	Sig. (2-tailed)	.000	.000		.000
	N	88	87	91	84
SSCALE	Pearson Correlation	.710(**)	.591(**)	.738(**)	1
	Sig. (2-tailed)	.000	.000	.000	
	N	82	81	84	84

** Correlation is significant at the 0.01 level (2-tailed).

Interpretive comments: Reading, Writing, Math and Science CASPs are all highly inter-correlated. The highest correlation, .738, is between the Math and Science CASP, but there is also a high correlation, .710, between Reading and Science.

Research Question: How did students who scored high (or low) in the Reading CASP score on the Science CASP? Were there gender differences in the patterns of scores?

Scattergram showing Reading Scale Score and Science Scale Score, by gender



Interpretive comments: Reading Scale Score is highly related to Science Scale Score. Is reading a necessary skill to do well on the Science CASP? Female students appear to have higher scores overall than male students.

Research Question: Is gender a factor in performance on the Writing CASP?

Report

WSCALE

gender STUDENT GENDER	Mean	N	Std. Deviation	Median	Std. Error of Mean	Minimum	Maximum
F	19.67	43	3.669	20.00	.560	6	24
M	18.54	46	3.384	18.50	.499	8	24
Total	19.09	89	3.550	20.00	.376	6	24

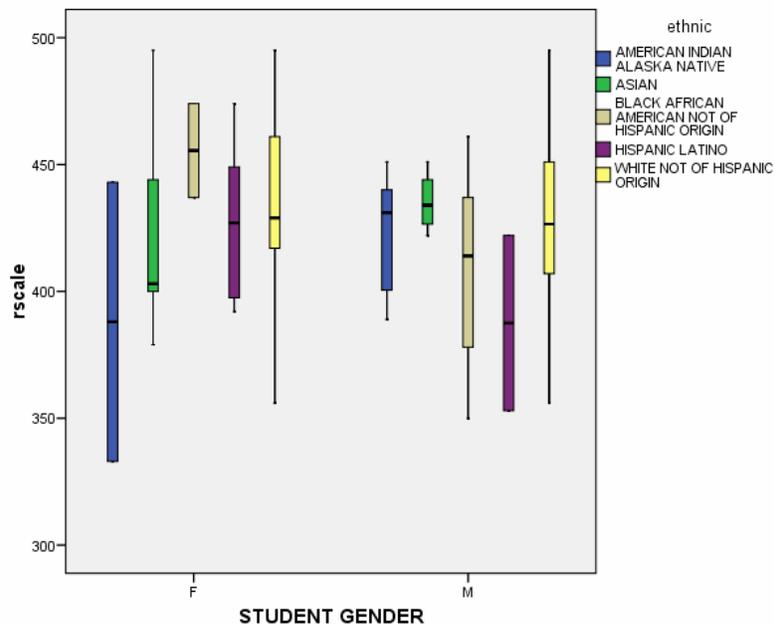
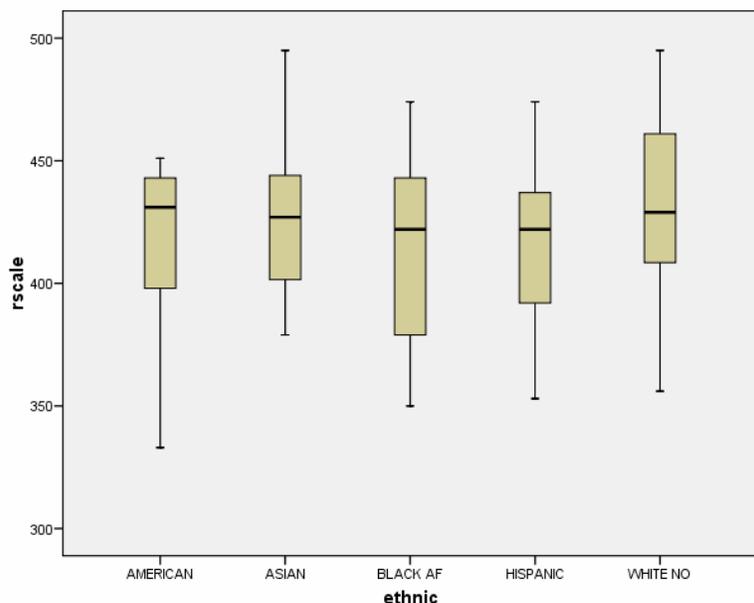
ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
WSCALE *	Between Groups (Combined)	28.426	1	28.426	2.288	.134
gender STUDENT GENDER	Within Groups	1080.855	87	12.424		
	Total	1109.281	88			

Interpretive comments: Performance on the Writing CASP is not significantly affected by gender -- differences between male and female students, overall, are not significant and probably due to chance.

Continued on next page...

Research Question: How did scores differ by ethnicity and by ethnicity and gender combined, as seen in boxplots?



Interpretive comments on boxplots: Boxplots show quartiles. The heavy line in the middle represents the median score; the ends of the box are the 25th and 75th quartiles, and the ends of the lines or “whiskers” show the highest and lowest scores. In the first boxplot, the different ethnic groups have about the same median scores, but the score distributions differ, for example, the highest and lowest scores, as shown by the whiskers. In the second boxplot, we see the effect of gender and ethnicity combined. The median scores and score distributions are different for the various groups, and differences within each ethnic group based on gender are displayed.

For more information on syntax and menu commands related to this article, please see [Using SPSS Graphs to Visualize Data: Procedures](#) link from beginning of article.

--Andrea Meld, Ph.D., Assessment Analyst, OSPI. Andrea is a WERA board member.

Setting Standards for Collections of Evidence

The CAA Options program will set standards on the Collection of Evidence in July 2007 following its first scoring session. OSPI plans to score approximately 1500 sufficient collections in reading, writing, and mathematics. A “Washington methodology” will be used to score the collections.

First, every collection will go through a sufficiency check in which the collections are reviewed for type and number of work samples and inclusion of necessary signatures. After a collection has been deemed “sufficient,” a range finding week will follow in which subject matter experts will review the alignment of the student work samples to the teacher-indicated strands.

Student work will be selected that represents a range of performance levels as well as a breadth of target and strand representation. Scoring guides will be refined using the content alignment and student work criteria. Scorers will be selected for content experience and expertise and will be trained on materials derived from rangefinding. Scorers will have to qualify to score the collections based on a pre-determined number of correct scores. Each collection will be scored twice with a third score if necessary to reconcile non-adjacent scores between the two scores.

Writing will be scored holistically with a cumulative score for COS and another for CONV. Mathematics and Reading will be scored analytically with individual scores for each strand. In all three content areas, all of the scores will be added to arrive at a total score out of a total number of points possible.

Standard setting will take place in late July. In standard setting, the participants will develop an initial set of Performance Level Descriptors that describes what a “proficient” collection looks like. Examples of scored WASL mathematics and reading

items as well as writing work samples will be used to help further define the Performance Level Descriptors. A set of collections from each content area will be selected to represent both different score points and different types of student work samples from a variety of course areas. Participants will use rangefinding and scoring training materials to begin their “bookmark” process.

At each review session, they will receive demographic data as well as WASL-performance level information to help reinforce the Performance Level Descriptors as key components to the process. Throughout the review sessions, a psychometrician outside of Washington’s system will lead the process, maintaining consistency and supporting the development of understanding of student performance. A final “bookmark” will be selected as the cut score for the standard, and the participants will then revise the Performance Level Descriptors to match the final cut score. The cut score will be applied to the scored collections, and reports will be sent out in August detailing both the process and the “met” or “not met” status of the student collections.

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