

RESEARCH AREA & SOURCE	DESCRIPTION & MAIN FINDINGS / ARGUMENTS
<p><b>Instructional Strategies / Brain Research</b></p> <p><i>Learning and Instruction</i> Vol. 18, pp. 513 - 527</p>	<p><b>Strømsø, H., Bråten, I. &amp; Samuelstuen, M. (2008) Dimensions of topic-specific epistemological beliefs as predictors of multiple text understanding.</b></p> <p>In this study with 157 first year undergraduates at Norwegian universities the researchers investigated whether students' beliefs about knowledge and how it is constructed affected their ability to read and understand multiple, complex texts ( sometimes containing conflicting viewpoints) on the same topic. Students' beliefs about knowledge were plotted along four continua: "(a) <i>certainty of knowledge</i> – ranging from the belief that knowledge is absolute and unchanging to the belief that knowledge is tentative and evolving; (b) <i>simplicity of knowledge</i> – ranging from the belief that knowledge consists of more or less isolated facts to the belief that knowledge consists of highly interrelated concepts; (c) <i>source of knowledge</i> – ranging from the belief that knowledge is transmitted from external authority to the belief that knowledge is actively constructed by individuals in interaction with the environment; and (d) <i>justification for knowing</i> – ranging from justification through observation, authority, or what feels right to the use of rules of inquiry and the valuation and integration of multiple sources". It should be noted that the instruments used to ascertain students' beliefs in this study related specifically to the topic of climate change. The extent to which an individual's epistemological beliefs are domain-specific or domain-general is contended.</p> <p>Understanding of text was measured on three levels using different instruments: (1) students' surface level understanding of individual texts (factual recall); (2) students' deeper understanding of individual texts (intratextual understanding); and (3) students' ability to draw inferences from the combined information of multiple texts (intertextual understanding).</p> <p><b>Main Findings:</b></p> <ul style="list-style-type: none"> <li>• Students who believed knowledge to be complex and theoretical scored higher on the test of factual recall.</li> <li>• Students who believed knowledge to be complex and theoretical scored higher on tests of inference related both to single texts and across texts, indicating that this belief enabled them to compare and integrate key information.</li> <li>• Students who believed knowledge to be constructed by individuals interacting with their environment scored lower on measures of deep understanding of texts. The authors interpret this as suggesting that when reading a complex set of expository texts, readers should pay close attention to the author's intended meaning and not rely too heavily on their personal interpretations. There needs to be a balance of personal judgment and reliance on external authority.</li> <li>• Students who believed knowledge to be tentative and evolving scored higher on the measure of intertextual understanding.</li> <li>• Beliefs about justification of knowing did not relate with measures of understanding. The authors advance two possible reasons</li> </ul>

	<p>for this: (1) possible difficulties in validly measuring justification; or (2) students may accept that knowledge claims in multiple texts should be verified through reasoning and the use of other sources, but may not have the skills to perform such an evaluation.</p> <ul style="list-style-type: none"> <li>• Prior knowledge predicted scores on all three reading measures, confirming that topic knowledge does affect understanding.</li> </ul>
<p><b>Instructional Strategies – ESL / Literacy</b></p> <p><i>Journal of Education for Students Placed at Risk Vol. 14, No.1, pp. 97 - 119</i></p>	<p><b>O’Day, Jennifer (2009) Good instruction is good for everyone - or is it? English language learners in a balanced literacy approach</b></p> <p>As part of a study on the implementation of literacy strategies in San Diego schools, this researcher compared the effects of on reading instruction strategies on the reading comprehension of native English language learners compared to proficient English speakers.</p> <p><b>Main Findings:</b></p> <ul style="list-style-type: none"> <li>❖ The strategies found to be most effective with proficient English speakers were: (1) higher-level questioning / discussion about the meaning of text; (2) incorporation of writing instruction; and (3) accountable talk (including a focus on ideas rather than facts and recall, a press for evidence from the text to support arguments, student response to and elaboration on each other’s contributions - the teacher played a more facilitative than directive role in accountable talk.</li> <li>❖ The effect of these three strategies on English language learners was still positive, but was substantially less than the effect on proficient English speakers and was not statistically significant. One possible explanation for this is that some of these activities were happening at a linguistic level that was beyond the ability of the ELs to comprehend.</li> <li>❖ None of the specific strategies investigated had a statistically significant effect on the reading comprehension scores of ELs.</li> <li>❖ During classroom observations, in addition to observing the specific strategies under study, teacher-student and student-student interaction patterns were coded. <ul style="list-style-type: none"> <li>➤ “Telling” ( where a teacher simply provided information rather than engaging students in the creation of that information) had a negative effect on the learning of proficient English speakers but a positive effect for ELs. The researchers hypothesize that ELs needed to be provided more directly with background information in order to access the texts they were trying to read.</li> <li>➤ The other interaction pattern affecting EL student’s reading comprehension was the opportunity to participate in discussion / conversation. Participation in discussion had a greater positive effect for ELs than for proficient speakers. The researchers hypothesize that this is due to the opportunity to develop oral language proficiency (Prior research has indicated a relationship between oral language proficiency and literacy development). Interestingly, the positive effect of discussion compared with the negligible effect of accountable talk further supports the researcher’s theory that in order to be of use, activities must take place at a level which is accessible for ELs.</li> </ul> </li> <li>❖ Qualitative data from interviews and observations suggest three <b>implications</b> of the findings: <ul style="list-style-type: none"> <li>➤ <i>Use of EL students’ native language</i> - literacy in the native language can function as a bridge to success in English since many</li> </ul> </li> </ul>

	<p>strategies transfer between languages</p> <ul style="list-style-type: none"> <li>➤ <i>Differentiation</i> - The program in San Diego had a substantial emphasis on differentiation, including using grouping strategies, specific scaffolding activities for individual learners etc. The findings suggest that in the case of ELs an emphasis in differentiation in general is insufficient. Teachers must: <ul style="list-style-type: none"> <li>• Recognize that strategies need to be tailored for EL students</li> <li>• Know enough about texts to analyze potential barriers to comprehension for ELs</li> <li>• Know enough about literacy and second language acquisition to diagnose and monitor the particular needs of ELs</li> </ul> </li> <li>➤ <i>Attention to English Language Development</i> – the smaller effect sizes for ELs suggest that it is important to build greater oral English proficiency at the same time as building literacy skills.</li> </ul>
<p><b>Using Data</b></p> <p><i>CRESPAR</i></p> <p><i>Technical</i></p> <p><i>Report 67. John</i></p> <p><i>Hopkins</i></p> <p><i>University,</i></p> <p><i>Baltimore,</i></p> <p><a href="http://www.csos.jhu.edu/crespar/techReports/Report67.pdf">http://www.csos.jhu.edu/crespar/techReports/Report67.pdf</a></p>	<p><b>Wayman, J., Stringfield, S. &amp; Yakimowski, M. (2004) Software enabling school improvement through analysis of student data.</b></p> <p>This is a report which outlines criteria which schools should consider when selecting software for storage and analysis of student data and then evaluates the various software packages on the market in light of these criteria.</p> <p><b>Main Findings:</b></p> <p><b>Important issues on software implementation</b></p> <p>The authors recommend that schools or districts considering implementing a software package for data storage and use consider the following:</p> <ol style="list-style-type: none"> <li>1. <i>Assessment of data needs</i> – This should include: <ul style="list-style-type: none"> <li>• Data inventory and preparation - an inventory of all data currently stored and where it is located</li> <li>• Data ‘cleaning’ - assess the quality and accuracy of the current data and estimate what it would take to ‘clean’ it.</li> <li>• Software needs - assess the types of data, presentation and analyses that will be most helpful in making the kind of decisions you want to make based on data.</li> <li>• Outside help - evaluate what services you can perform in-house and what you require outside help with.</li> </ul> </li> <li>2. <i>Time to implementation</i> – rapid, successful implementation is important to sustain interest and improve education sooner rather than later. Schools should aim to ‘get data up and running’ quickly even if the initial system does not do everything that is desired</li> <li>3. <i>Cost</i> – Cost evaluations should include ‘opportunity costs’ such as the time lost by internal people in designing systems and inputting data if it is decided that the system should be developed internally.</li> <li>4. <i>Choosing a vendor</i> – there is currently no ‘best product’. Different companies have focused on different aspects when producing software, so schools should carefully choose a product that meets their needs and a vendor that provides the kind of extra services they require.</li> <li>5. <i>Schools Interoperability Framework</i> - a framework exists for ensuring that software packages are able to communicate with</li> </ol>

each other. Schools can check if the product they are interested in fits the standards outlined in the Schools Interoperability Framework ([www.sifinfo.org](http://www.sifinfo.org)) A full list of compliant applications can be found at:

[www.opengroup.org/sif/cert/cert\\_prodlist.tpl](http://www.opengroup.org/sif/cert/cert_prodlist.tpl)

### **What should good software for student data analysis look like?**

The authors have compiled the following criteria for evaluating software:

1. *User friendliness*

- Software is intuitive and easy to use
- Software requires little training
- Presentation is familiar to user
- Access speed is fast and efficient

2. *User features*

- Comprehensive query tools available for every level of user
- Flexible drill-down capability from any form of data aggregation
- Data can be accessed from anywhere

3. *Information access*

- Multiple ways to access information
- Varied methods of representing information ( eg. tables, graphs)
- Wide range of data available for analysis
- Interface provides immediate access to relevant information
- Pre-formatted reports are clear, varied, relevant and comprehensive
- Longitudinal presentation of data available at every user level

4. *Creating and sustaining quality data*

- Provides capacity to enable clean data
- Company accepts responsibility to facilitate data process with schools
- System allows for expansion past initial implementation
- System provides proper security for data transmission
- Integration of different areas of information is seamless to the user
- Software accepts many common data formats

5. *Additional features*

- *Online student work samples available*

- *Software exports into common programs*
- *Users can access electronic discussion groups*
- *Easy access to learning standards information*
- *Software offers capacity to link individual teacher data to student data*

**Software reviews**

A table containing a summary of the reviews is included as an appendix after these summaries.

The authors maintain a website that contains updates of product reviews:

[www.cos.jhu.edu/systemics/database.htm](http://www.cos.jhu.edu/systemics/database.htm)

**Leadership /  
Recruitment &  
Retention**

*Leadership and  
Policy in  
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**Brown, K. & Wynn, S. (2009) Finding, supporting, and keeping: The role of the principal in teacher retention issues.**

The researchers interviewed principals at 12 schools which had low attrition and transfer rates for beginning teachers in order to determine the leadership styles and strategies that helped achieve these low rates.

**Main Findings**

**Literature Review**

- Large schools tend to have lower turnover rates than smaller ones ( Ingersoll, 2001)
- Large class sizes are associated with higher attrition ( Henk, Zahn & Carroll, 2001; Kirby, Berends & Haftel, 2001)
- While pay and other factors influence attrition, teacher participation in decision-making, administrative support and school climate are statistically related to teacher turnover ( Ingersoll, 2001)
- A third of dissatisfied teachers blame a lack of support from the principal as the key reason for their departure ( Ingersoll, 2001)
- Teacher autonomy, class size and a collegial atmosphere are decisive factors leading to successful retention ( Southeast Center for Teacher Quality, 2005; Weiss, 1999)
- Beginning teachers' decisions to remain at a school are strongly influenced by principal leadership and school climate ( Wynn, Carboni Wilson & Patall, 2005; Wynn & Patall, 2006)
- Principal's support for mentoring and induction programs ( particularly those related to collegial support) plays a prominent role in the decisions of beginning teachers about whether to remain in a school ( Smith & Ingersoll 2004)
- The traits and strategies of 20 principals working in low-attrition schools were found to be passion and commitment, the ability to diagnose and resolve organizational problems, the provision of feedback, direct assistance, the creation of collaborative working conditions, involving teachers in meaningful decision making ( Charlotte Advocates for Education, 2004; Southeast Center for Teaching Quality, 2005)
- Schools which have "integrated professional cultures' where teachers collaborate at all levels were more likely to retain new teachers ( Johnson & Birkeland, 2003)

	<p><b>This study</b></p> <p>The following styles &amp; strategies emerged from the interviews as being effective for recruitment and retention:</p> <p><b>Recruitment:</b></p> <p>Shared Values</p> <ul style="list-style-type: none"> <li>• Try to find a 'fit' with both the other members of the team and with the vision of the school</li> <li>• Look for teachers who care passionately about kids and their learning</li> </ul> <p><b>Retention:</b></p> <p>Support / Needed Resources</p> <ul style="list-style-type: none"> <li>• Be an advocate, protector and mentor for new teachers</li> <li>• Be available to new teachers - 'open door' + visible presence</li> <li>• Support the growth and development of teachers</li> <li>• Ensure that the materials necessary for good teaching are available to teachers</li> </ul> <p>Flexibility</p> <ul style="list-style-type: none"> <li>• Situational leadership is crucial in meeting the needs of teachers, especially new ones.</li> <li>• Establish relationships with new teachers</li> <li>• Make the time to listen to new teachers</li> <li>• Involve teachers in relevant decision-making on substantive issues</li> <li>• Differentiate support based on the needs of individuals</li> </ul> <p>Learning Communities</p> <ul style="list-style-type: none"> <li>• Involve teachers in collective inquiry</li> <li>• Expand teacher leadership capacity</li> <li>• Provide time for teachers to collaborate and work towards shared goals</li> </ul>
<p><b>Assessment / Using Data / Professional Development</b></p> <p><i>Journal of Education for Students Placed</i></p>	<p><b>Murnane, R., Sharkey, N. &amp; Boudett, K. (2005) Using student-assessment results to improve instruction: Lessons from a workshop</b></p> <p>This authors conducted a series of fourteen workshops on using data from standardized tests to improve instruction conducted over a year in the Boston public school system. Feedback on the workshops was collected using: the writings of workshop participants; debriefing sessions; online surveys; a report written by participants in the final workshop session.</p> <p><b>Main Findings:</b></p> <p><b>Lesson related to structuring workshops</b></p> <ul style="list-style-type: none"> <li>• Many groups did not initially function well and benefitted greatly from the introduction of structured approaches to conversation</li> </ul>

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such as the question formulation technique developed by the Right Question Project ( <http://www.rightquestion.org>) and a protocol from the Coalition of Essential schools ( [http://www.essentialschools.org/cs/resources/view/ces\\_res/54](http://www.essentialschools.org/cs/resources/view/ces_res/54))

- Groups found it most useful when the activities were focused on real data from their own schools rather than more abstract case studies. They appreciated the opportunity to apply structured approaches to data-based problem-solving to their own data questions.
- Groups found it useful to have workshop time specifically set aside for them to work on data projects from their schools.
- Groups found it useful to share problems and insights across schools and across groups. One activity required participants to read and write about the reports prepared by other schools and participants felt this provided valuable insights.

**Lessons related to data use**

- The workshop had focused on a particular external assessment used in Boston public schools and as part of the workshop participants actually completed the assessment itself under test conditions. Participants perceived this as a very valuable way of coming to understand the structure and content of the assessment itself. Many of them took away from this an understanding of the importance of all sections of the schools working together to identify the skills and strategies that were important on the test and the importance of cross-disciplinary collaboration in helping learners develop these skills.
- Some schools, particularly those whose results on the assessment overall were not good focused their data questions more on increasing the scores of those students who feel just below the minimum passing score, largely ignoring other groups of students.
- In implementing the projects designed during the workshop all groups highlighted the critical importance of the role of the school leadership in setting a tone and supporting the use of data to improve instruction.
- Overall, groups recognized the importance of allowing data questions to evolve over time.

**APPENDIX - SUMMARY OF SOFTWARE REVIEWS FROM WAYMAN, STRINGFIELD & YAKIMOWSKI**

Software & company	Account from SchoolNet	Data Miner from Chancery	Data Point from NSSE	Ease-e from TetraData	EDsmart	eScholar	QSP from CRESST	Sagebrush Analytics, pwr'd by Swift- Knowledge	SAMS from Executive Intelligence	Scholar Suite from SCHOLARinc.	Socrates Data System from CRM	STARS from SchoolCity	Vir Edu from
Company Focus	Educational Technology	Student Info Systems	Educational Research	Educational Technology	Educational Research	Data Warehousing	Educational Research	Data Analysis & Reporting	Educational Technology	Mngemnt of Assessment Data	Educational Research	Educational Technology	Learn Mnger
Version	4.0	4.1	n/a	4.5	3.2	5.0	4.3	5.1	3.4	2.0	2.2	2.6	5
Pre-formatted reports	x	x		x	x	x	x	x	x		x	x	
Query tools for less	x		x	x	x		x	x	x			x	

advnced users													
Stored queries		x	x	x	x	x	x	x		x	x		
Online student work samples			x				x						
User discussion brds or user mtngs	x			x	x	x	x		x		x		
Accepts data formats in addition to ASC II	x	x		x	x	x		x	x		x	x	
Variable set customized to fit school needs		x	x	x	x		x	x	x		x	x	
Company will house data	x		x	x	x	x		x	x	x	x	x	
School may house data	x	x		x	x	x	x	x			x	x	
Company helps collect data	x	x	x	x	x	x		x	x		x	x	
Reports SIS compliance	x	x		x	x	x			x	x			
SIF-certified	x	x		x		x							
No. of districts in use	40	83	15	464	27	750	100	35	20	15	92	28	1