



Insight and Innovation for Technology Leaders  
October 19, 2004 ♦ Palisades, NY

## **Empowering Teachers to be Data Driven in their Classrooms on a Weekly Basis**

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### **Reasons for using data: continual improvement in student learning**

**Teach → Monitor → Adjust (Madeline Hunter)**

#### **Similar Concepts:**

Data Driven Decision Making (d3m)

Accountability

Action Research

Total Quality Management (TQM)

Evidence Based Learning

Task Analysis

Mastery Learning

Results-driven

### **Monitoring and Adjusting “Weekly” Classroom Learning with Technology**

#### **Unit**

Descriptive Writing – Students peer or self monitor through a writing report chart over time within the unit.

#### **Weekly**

Timed Journal Writing – Students keep individual logs and the teacher projects a weekly computer graph of the class average

Vocabulary Strategies – Students graph on the computer their own vocabulary scores over time and change strategies if they have less than an 80 score.

#### **Monthly**

Student Group research – The teacher evaluates groups on different answers produced and on meaningful facts produced in the group overtime.

Benchmark ELA essay – The teacher grades on ELA rubric, puts in a spreadsheet, and identifies the lowest average within the rubric.



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**Every 5-6 weeks**

Computer Achievement Monitor – The teacher measures the class objectives 6x a year and change instruction based on the results.

Standards Based – The teacher changes the grading to reflect the standards

**Periodically Throughout the Year**

Reading Analysis – Students electronically record their reading to easily listen at any time and against future examples.

Electronic Portfolio – Students demonstrate they can do ELA standards through their examples and reflections of each standard

**Some common data collection forms:**

Checklists

Group presentation scores

Homework completion

Student self-assessment

Case studies

Quizzes

Student feedback sheets

Attendance

Collaborative group work

Interviews

Discussion quality

Portfolio

Concept maps

Teacher log

Student demonstrations

**Collect data over time.**

**Triangulate the data to see conditions for learning.**

What does the triangulation of collaborative group work, discussion quality, and concept map show about the total picture of the class? The individual?



## Vocabulary Learning Data Driven Decision Making

21<sup>st</sup> Century Skills - High Productivity - Ability to manage for results

(From Harry Tuttle's *Learning and Technology Assessments for Administrators* p. 71, available at <http://www.epivis.com>)

**Introduction:** Managing for results is critical to high productivity in the 21<sup>st</sup> century. Do teachers in your schools help their students to learn how to learn vocabulary and manage their own strategies for success? Do the teachers monitor and adjust their students learning of vocabulary to improve the learning? Teachers and students can use technology to assist in monitoring the students' vocabulary learning success to create better results.

**Using the Assessment:** Ask each teacher who want to improve their students' vocabulary learning to go through the steps identified in the assessment page. They examine their students' vocabulary grades by using the electronic grade books. They email to you the class grades every few weeks so that you can see the success of this action-research. Finally, they meet and talk about their successes so that other teachers can be successful.

**Experience:** Miss Barocas, the high school principal, heard many teachers complain about the students' lack of learning during a faculty meeting. She asked the teachers for more information. They commented that students did poorly in learning the vocabulary in the various subject areas. She suggested that they do some in class research to help students find better vocabulary learning strategies. She suggested having the students brainstorm various learning strategies as a class (ideally on a computer connected to a projection device), categorizing those strategies, printing out a copy of these categorized strategies, having students note which strategy they used when they took a vocabulary quiz, computer graphing their quiz scores, analyzing their scores, and selecting a different strategy if their first strategy was not successful. A group of teachers did this research and found out that many students originally did not have successful vocabulary strategies. The students found new strategies that were successful.

**NETS:** NETS - Student 6. A., Administrators – TSSA I. E.

### Sources:

"Four Vocabulary Strategies for High School Students."  
<http://litsite.alaska.edu/uaa/workbooks/readingvocabulary.html>

Mastropieri, Margo A. and Thomas E. Scruggs. "Enhancing School Success with Mnemonic Strategies." [http://www.ldonline.org/ld\\_indepth/teaching\\_techniques/mnemonic\\_strategies.html](http://www.ldonline.org/ld_indepth/teaching_techniques/mnemonic_strategies.html)

"Vocabulary Strategies." [http://people.uncw.edu/sherrilld/edn356/notes/vocabulary\\_strategies.htm](http://people.uncw.edu/sherrilld/edn356/notes/vocabulary_strategies.htm)



### Vocabulary Learning Data Driven Decision Making Assessment

The teacher will have the class brainstorm all the ways to learn typical vocabulary from the class such as “bi = two.” The teacher projects all the students' strategies by using a computer connected to projection device. Then he or she has the class organize all the strategies into student created categories such as spoken, written, visual, etc. The teacher prints out this list for the students. The students select which strategy they will use to learn the weekly vocabulary words.

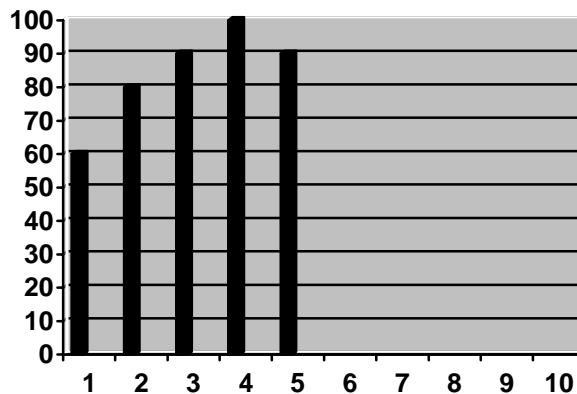
On each quiz, whether given on paper or online, the students identify the vocabulary strategy that they used.

Vocabulary Quiz	
1	6
2	7
3	8
4	9
5	10
The vocabulary technique I used this week to learn the word pairs is _____	

When the students receive their grade, they graph it by using a teacher made computer spreadsheet.

Student	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk10

As the students see their grade, they can visually tell if they are doing well (80 or above). They monitor their own progress. If not, they are to try another strategy for the next two weeks. For example, if they just orally repeated the words “Bi means two”, they may now change to making a meaningful phrase of the two words such as “Buy Two.” They try making meaningful phrases for the next two weeks and see if their score increases. In addition, the teacher monitors the students’ progress by using an electronic grading program. If the teacher notices that a student’s grade is going below eighty, then he or she can guide the student through the self-discovery process.



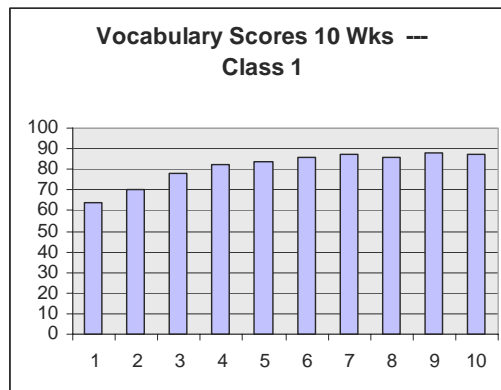
The teachers who use this technology supported assessment of student vocabulary can give you a report of the average class grades on vocabulary over time so you can share their success!  
(From Harry Tuttle's *Learning and Technology Assessments for Administrators* p. 72, available at <http://www.epivis.com>)



### Vocabulary Learning Data Driven Decision Making Monitoring

Ask those teachers who wanted to increase their students' vocabulary learning through managing for results to email you their class vocabulary average quiz grades every few weeks. Monitor the progress. Share the results in graph form with all the teachers so they can see the increase in student learning when students change their learning based on their own observation of personal data.

Vocabulary	Week									
Class	1	2	3	4	5	6	7	8	9	10



Strategies to help or encourage the teachers:

- Model, at a faculty meeting, the steps in this process, especially the brainstorming of student vocabulary learning strategies and the student categorizing of these strategies.
- Email a vocabulary spreadsheet template to all teachers or tell them where it can be found on the network.
- Ask the Language Arts Coordinator to research vocabulary learning on the Internet and in print so he or she can create mini-posters of successful strategies to share with classes. For example, he or she may create posters in which students draw a visual illustrating the word pair, write a phrase including the pair, and say the word pair.
- Ask those teachers who have used Vocabulary Learning Data Driven Decision Making to share what made it successful so that others can learn from them.
- Post graphs of classes that increase in their vocabulary learning in prominent places around the school. Make sure to post only the class data and not individual data.

(From Harry Tuttle's *Learning and Technology Assessments for Administrators* p. 73, available at <http://www.epivis.com>)