

1. Raising the Bar with Student Research – Information Seeking Process
2. Understanding and learning how to effectively research are critical skills for 21<sup>st</sup> century students. A core group of librarian, tech coordinator, representative teachers from academic content areas, and assistant principal participated in a professional learning community to study current research models, develop and articulate a progressive research model for CMS students in grades sixth through eighth. A student survey to assess student research skills was developed and administered at the beginning and end of the 2004-2005 year. The developed model will be shared with CMS staff in August 2005 and implemented in the 2005-2006 year.
3. Barb Linnenbrink  
[blinnen@d20.co.edu](mailto:blinnen@d20.co.edu)  
Academy School District #20
4. <http://grant.d20.co.edu/index.html>
5. Evaluation results
  - a. Grant Goal: Challenger Middle School's goal is to implement a strategy for the logical progression of teaching the research process in grades six through eight.
  - b. Grant Activities:
    - i. Three teachers (sixth, seventh, eighth representing, four core academic areas) and librarian researched current student research models ( 8 Ws, Follett's Pathways to Knowledge, Big 6, Information Seeking, Information Process, Information Skills, Info Zone, and Research Cycle) in July 2004.
    - ii. In August 2004, the core group selected McKenzie's research cycle and Academy School District #20's Information Literate student model that we then adapted for CMS students and staff.
    - iii. In August 2004, the core group developed a student survey based on the District 20 ETIL standards/benchmarks and CMS research model draft to be administered to selective classes as school began in August. Using e-Instruction, approximately 190 students (60 sixth graders, 90 seventh graders, 60 eighth graders) completed the survey.
    - iv. From Fall 2004 – Spring 2005, grant participants in collaboration with tech coordinator and librarian developed, implemented and evaluated at least one inquiry lesson with their classes.
    - v. In December 2004, core group met to share experiences and samples of student work. We also worked with the Dean of Students who is the building CSAP administrator. We connected the student survey questions with CSAP Reading and Writing standards, reviewing CMS student scores on relevant questions.

From this analysis, we learned that certain CSAP questions had more specific research skills' questions at specific grade levels (i.e citations and organizational features of electronic text at sixth grade while summarizing had more questions at eighth grade). This skill emphasis did not correlate well with current CMS instruction of Reading and Writing Standard 5. This analysis of released data was shared with Language Arts' teachers in January. We also met with Anita Schoenemann from District Learning Services who asked us to try another information literacy assessment tool. One of the seventh grade teachers used this instrument in January to assess students on a research project completed in December. This instrument was cumbersome requiring hand scoring, several ambiguous questions, and not a good connection with research process skills.

- vi. The core group decided not to share the research model and process with other teachers second semester because each was already working with at least one other team member or grade level teacher. Time to reflect and work with the model was limited given other demands and we had been unsuccessful in finding a qualified consultant to work with us. We decided to meet at the end of the school year and begin the 2005-2006 year with the proposed CMS model.
- vii. In May 2005, students took the student survey again using e-Instruction and results were tabulated and compared.
- viii. On June 6-7, 2005, the Core group met and evaluated the year's experiences as well as pre and post test data from the student survey. Jeneane Tate served as consultant and facilitator. We finalized the CMS Research Cycle Model, CMS Research Process model, and CMS Progression of ETIL skills. A CMS Research Cycle folder with templates and research worksheets was created and will be maintained/updated with tools and lessons. Implementation will begin in August 2005 and continue throughout the year.

### **Evaluation:**

Evaluating the success of the grant from the teachers' perspective was very positive. The core participants indicated that they had learned a lot about the research process, specifically regarding essential questioning, effectively evaluating resources, assessing the research process and product, and demonstrating ethical information use. Teachers acknowledged that it was difficult for them (and their students) to develop not only essential questions, but also logical fact questions. Teachers appreciated the stipends they earned for the additional days worked during the summer. All agreed that we had become a professional learning community with this grant and appreciated the extra paid time to do the learning, planning, reflective thinking and sharing.

From a student standpoint, the evaluation is also positive with increased student excitement for learning noted by all teachers with their research units. Another positive experience for both students and teachers was the opportunity to do more frequent smaller research units rather than the traditional one research project/year. Examples of these Slam Dunk lessons included World Fairs, Asian Cities and Bill of Rights. Teachers were also pleased with the high quality of students' content learning that was demonstrated both in process and products. The student survey administered at the beginning and end of the year had more mixed results. We have learned a lot about the wording of our questions and will make additional changes to the survey for continued use this fall. We also will administer the survey mid year when students have recently completed research units. For both the sixth and eighth grade selected teams, most of their research units had been completed during the first semester and as a result, while there were some significant increases, there were a few minor decreases as well. With one seventh grade team in which all three teachers had significant inquiry research units through out the year, the results were significantly more positive with an overall increase of 18%. In addition to the survey, students' research process and products were evaluated with a variety of worksheets and checklists/rubrics. When CSAP scores are released for 2005, the core group will examine CSAP scores to see if there are student score increases on the applicable questions. Nevertheless, the excitement for learning exhibited by students during these new research opportunities was invigorating for teachers as well. Participating teachers in collaboration with the tech coordinator and librarian are revising and developing new inquiry research lessons.

**Reflective Narrative:**

What went well with this grant was the opportunity for teachers who did not collaborate a lot with the tech coordinator and librarian to develop new relationships. The review and study of research models resulted in thoughtful dialogue and the development of a research model for the CMS learning community. All gained a better insight and understanding of one another's responsibilities as related to student learning. The enthusiasm and excitement of students made this intensive, time consuming effort worthwhile.

There are several modifications that we have already made as the result of our two day end of year evaluation. Changes were made to the Research Cycle Model and Research Model Process as well as identifying questions on the student survey that need to be changed. Due to some personal situations and school demands, we were unable to meet as frequently throughout the year as we had planned. Time to collaborate and plan continues to be an area of high need; the core group will seek ways to find administrative support and funds to support team planning days next year as more teachers utilize the research process in developing inquiry –based lessons with essential questions. Our consultant was most helpful in identifying the systemic change we are attempting to make at CMS with this progressive research articulation and made us aware of needed strategies if we are to be successful. We realized that our initial time frame of one – three years needs to be modified to a more realistic three – five years.

Surprises included both the delightful and more frustrating ones. With several of the new lessons developed, teachers and students embraced the concept of more and shorter research activities. We anticipate that there will be an increase in the number of “mini lessons” thereby providing students with more opportunities to increase and refine their ETIL research skills. The development of the CMS Research Cycle – Progression of Skills will ensure that all students have opportunities to achieve the proficiencies needed by the end eighth grade. Developing and refining survey instruments to collect viable data and then analyze the data is challenging and extremely time consuming. We have learned about the need for consistency in students tested and their need to be responsible in their responses as well as the questions asked. These are important factors. Another year of data collection and analysis will hopefully help us better understand how CMS students are learning the research process and ETIL benchmarks.

We are in the beginning stages of identifying the impact this grant will have on student achievement. Students will need to progress through their three years at CMS and transition into the high school with sustained increase in research skills before we will know if this grant has been helpful in student achievement. The initial analysis of the survey data is inconclusive, even with some positive results. We need to collect more data and see if student gains are sustainable. We will need to develop and refine better instruments to assess student achievement with the research model. We have already encountered challenges connecting the research process and product with CSAP data and other data collection/analysis instruments.

As stated in the evaluation, essential questioning and the research process is changing the culture of teaching and learning for CMS students and teachers. Of the nine teams at CMS this year, there was only one team who did not participate in at least one collaborative inquiry-based lesson. We think this is excellent progress for the first year. At the June workshop we developed the implementation plan for 2005-2006. It includes the CMS Research Cycle Model, CMS Research Process model, and CMS Progression of ETIL skills. A CMS Research Cycle folder with templates and research worksheets was created and will be maintained/updated with tools and lessons. Implementation will begin in August 2005 with a Language Arts workshop, team and staff meetings, and continue throughout the year.

Challenger teachers and students are benefiting from this grant’s funding that provided time and money for teachers to understand the research process and develop/implement updated instruction and learning opportunities for staff and students. Thank you CDE for awarding this grant to Challenger Middle School.