



The Teacher Center of Broome County
Teacher Study Group Grant Award
2014

FINAL REPORT DUE BY APRIL 7, 2014
DOCUMENT PROCESSES AND OUTCOMES

STUDY GROUP TOPIC: Math Centers in the Middle School / Secondary Classroom

List of group members: Cathy Jeremko, JoAnn D'Angelo, Debra Ortloff

The final report must be word-processed and submitted both in print and through e-mail using this form. Send print copy Teacher Center @ WSKG, BOCES Mail Drop #22 and e-mail file to btc@btboCES.org. This report will be posted on the Teacher Center web page at <http://teachercenter.info>.

Describe the initial goal of the group noting any adjustments that had to be made as time passed.

The data from the results of the New York State testing on the new common core standards in mathematics have presented a need for teachers to find more innovative ways to reach all students to help them to succeed.

Trial of the flipped model has brought to the surface a need for new ways to structure classroom time. A discussion among the teachers in this study group has led to the conclusion that either with or without flipped classroom videos, there is a need to try new structures in the classroom. Because of the rigor present in the new standards, the teachers in this study group explored the concept of math centers in the secondary school classroom, in order to help to differentiate instruction, and give teachers more time to assess students in smaller groups.

We planned to find some structures that could be used and adapted for any mathematics teacher in a middle school, or high school, to use to plan lessons that involve the use of centers. Structures would allow students to be

differentiated according to their needs and given choice on different activities that they can do to help them to grasp the concepts.

We were successful in finding good structures to be used and adapted. We were able to come up with a structure that involved choice (a “choice board”) to be used for the self motivated and high functioning students. In addition, the choice board was used to appeal to students who like to demonstrate their understanding by more creative means; Other choices appealed to the more traditional student. We came up with structures that used:

Choice

Games with manipulatives

Games with technology

Videos used as a flip and also incorporated in a station

Puzzles

We spent our time constructively exploring stations and implementing them with success.

Describe the ACTION PLAN that the group followed.

1) We researched books and brought the ideas to the table to do the subsequent steps.

a. The “Singapore Math Practice” Level 6B (seventh grade) math book was a good resource in that it had some good problems to use in the

stations. They were good quality problems of sufficient challenge as compared to the common core.

b. The “Teaching Student-Centered Mathematics” is not about mathematics centers per se. It is, however, a really good book for reference, and it is suggested as a good reference book for math teachers to have. Nice discussions of important, key, math concepts, as well as good explanations of both differentiation and open ended questions. Again, more a reference book and springboard for discussions, rather than a resource book for math stations.

c. The “Mathematics Station Activities” books have some good ideas in them. Specifically, the station activities for scale, box and whisker, and scatter plots activities were used with success. Some observations about these books:

- they are not really organized by grades correctly; As a whole, the books on grades 6-8 could be considered a set of resources for all three grades.
- They are relatively inexpensive for the resource that they are
- They need some adapting, but have some good activities in them
- Some of the activities would be stand alone and take a whole class period. They are good activities, but too long for the

stations we are trying

- 2) We had initially planned to have a rubric/checklist for an observer to use to evaluate the station activities on video. This turned out to not be a focus that we took with the study group. We spent our time on developing and testing structures, and working through the logistics of timing.
- 3) We researched and shared internet resources. There was more out there than we had initially thought and that was encouraging. We created two Pinterest boards that we share. One is for new ideas, and the other is for any of those links that we actually tested out in the classroom and decided that they were good. These boards can be accessed by any interested teacher. They are under our names on Pinterest and the boards are titled “Study Group for Mathematics Centers” and “Vestal Middle School Math Centers”. The second Pinterest page was for those pins that were used and were definitely useful.

Describe how the action plan was implemented.

The implementation of the plan was that we did some research/preparation work ahead of our meetings. We would share with each other what we had discovered on the internet or had read from the books. We would then put our ideas together at the meetings. Several of the initial meetings were still in the planning stages of designing the station activities. We would go back

to the classroom and try a station activity and then come back and report back on how it went. We also had video of the stations being conducted in class. The videos had limited usefulness however. Watching the videos did point out some logistics of movement around the room and resource planning. We had initially hoped that the videos would be something that you would keep in your library, but, unfortunately, the videos turned out to be something not so useful in that capacity.

Evaluate the impact of the study group effort on teacher/student performance. How has this study group changed you as a teacher? Do you anticipate that any of your teaching practices will have changed?

The impact of the study group has been significant. It has changed each of us in that we have all benefitted by the experience of collaborating and sharing ideas from each of our unique perspectives. As teachers, we appreciate the opportunity that was given to us to work together for something of value that was not part of the specifics of our job. We were energized and we all were driven to do our best to meet the challenges of helping each student to succeed. We all agreed that it was such a positive experience to motivate each other and we hope to continue with this study, of creating and improving our math centers and communicating through our Pinterest boards.

What evidence do you expect to see of student achievement improving as a result of your participating in this study group?

The students have appreciated the effort that we have put forth to create an environment of student centered interest in learning. Anonymous surveys conducted on the effectiveness of student attitudes towards learning in the classroom have been positive. It has been formatively assessed that students respond positively to math centers. Students had more opportunity to get assistance from the teacher by using these structures, and in turn the teacher was able to move about the room and do formative assessment effectively.

What evidence is there that the goals of the study group has/has not been met?

We have several structures developed, including a student self-assessment as they travel through the centers, a generic choice board, and station activity days for 4-5 different concepts. We plan to continue to develop more station activities, and to continue our communication through the shared Pinterest boards.

Comment on the value of the study group process? Did it work for you?

The process was good and the meeting logs helped us to stay focused and it is great to have these logs as documents that we can go back and refer to concerning the research we did. I especially liked the sheets in the leader packet (Checklists and Ideas for Summarizing, Reflection and Evaluation).

How can we make this study group program better?

I think the study group Leader Packet was well thought out and very

organized. Keep up the good work, and I do not have any suggestions for improvement. Thank you for this wonderful opportunity for teachers to research, share and collaborate.

A final report is due two weeks after the last meeting or by April 7, 2014, whichever date is first. The report must be typed and double-spaced using the provided form. One copy must be submitted in print and the file must be submitted through e-mail to bctc@btboces.org. Return to the Teacher Center (Mail Drop #22), 601 Gates Rd., Vestal, NY