

Final Grant Report

from the Southwest Mathematics Team [See p. 38]

Brief Narrative

Sept. 11, 2009 – July 15, 2011

The original grant letter from PREP-KC for both projects was dated September 11, 2009. The first PREP-KC check for \$10,000, covering both grants, was dated Oct. 9, 2009. After completing the UMKC grant account creation process, this check was finally deposited on Oct. 28, 2009. One account was created for each project, with \$6,000 deposited into the Peer Tutoring Project account and \$4,000 deposited into the Math Videos Project account. Both accounts were under the supervision of Richard Delaware at UMKC.

Many interruptions prevented the efficient pursuit of these projects. The nature of working in an ever-changing school environment, as well as the Mathematics Team's monthly workshops rewriting and re-sequencing the curriculum in the first year, and other events, delayed our efforts to begin.

The second PREP-KC check for \$8,000, covering both grants, was dated March 17, 2010, and finally deposited in April 2010. \$7,000 was deposited into the Peer Tutoring Project account, raising the original total allocated to this grant to \$13,000, and \$1,000 was deposited into the Math Videos Project account raising that total to \$5,000.

Both grants were active at Southwest the first year through June 3, 2010, the last school day for students. Later, both grants were given extensions in the second year first to Dec. 31, 2010, and then eventually to July 15, 2011. In the end, a total of **\$ 9,716.14 (about 54%) of the \$ 18,000.00 award was expended.**

Mathematics Peer Tutoring Project Narrative

After several discussions among us in early November, Ronda Miles created a flyer announcing the Peer Tutoring Project on Nov. 24, 2009, and distributed it to 10th grade students selected by Ronda Miles and Shawn Cardwell, and 9th grade students selected by Gislaine Ngounou. The flyer indicated that students were to contact Ronda Miles by Dec. 7 to schedule an appointment.

On Dec. 3, 2009, from 1:50-2:10 pm we held a short meeting in the Southwest library for all students who had shown interest up to that date. Ronda Miles, Gislaine Ngounou, and Richard Delaware discussed the project with those students. Early on we decided to have the two teacher coordinators, Ronda Miles and Gislaine Ngounou, handle the record-keeping, rather than use a student as we originally intended.

15 minute peer tutor interviews were scheduled from 2:30 -5:00 pm, on Dec. 8, 9, 10, and 11. But Dec. 8 and 9, ended up being snow days, so those interviews were re-scheduled to Dec. 15 and 16. We interviewed all of them in the unused room 205 at Southwest. A total of 42 students were invited to interview, 35 appeared at the interviews, and we decided to hire 30 of those, to begin tutoring with the new semester.

Each student was required to complete an application form. We compiled a list of questions for the interviews, and made notes during those interviews. The interviews were conducted by the team of Ronda Miles, Gislaine Ngounou, Shawn Cardwell, and Richard Delaware. At least three of us were at each interview, and usually all four of us. An Offer Letter was then written and printed for each student on Department of Mathematics and Statistics stationary, signed by all four of us, and distributed to the 30 students on Dec. 21 and 22, 2009, the last two days before Christmas break.

Since school was closed for 5 snow days, January 4-8, 2010, it wasn't until January 20 and 21, 2010, from 2:20-3:30 pm, that the **Orientation for new Peer Tutors** could be held by Gislaine Ngounou and Ronda Miles. We scheduled it twice so that all 30 tutors could come. As it turned out, a total of only 28 attended over the two days. Logistics and tutoring behaviors and tips were discussed, and the UMKC spiral notebooks were distributed to be used as log books. See the two email excerpts below.

Gislaine Ngounou Sent: Sat 1/23/2010 8:35 PM

Peer Orientation went well this week (we conducted it in my room). Students came in on time, we had them introduce themselves (9th and 10th grade students do not know each other). Then, I had them work in small groups to talk about what makes a good tutor and expectations that we should have of peer tutors at Southwest. Each group then got up to present their work. We made two lists compiling expectations on one and characteristics of a good tutor on the other. As a whole group we discussed similarities among the things they came up with. They were able to ask each other questions and come up with examples to explain what they were talking about.

After that, we created four groups and assigned each group one of the section in the handout (tutor code of ethics, guidelines, effective math tips and twenty-five pointers). Groups were responsible for reading and becoming experts at their sections. They were given a piece of chart paper to illustrate/summarize the key learning ideas from their given sections (which they would present). They did they a great job with this activity but all groups were not able to present (we ran out of time). We summarized and talked about how many of the things in the handouts were also things they came up with and discussed beforehand (in the first part of orientation). Ronda then talked about scheduling; she gave each one of them a calendar to mark preferred days of work for the next two weeks. She will then compile them and create a master calendar. She also went over logistics (reporting time: 2:20 pm, location: room 210, math tutoring checks, their record log books: purchased by you etc.). There will be a mini-orientation when they first report to work. They will go to Ronda's room and proceed from there to tutoring locations.

I wish we had a little more time so all groups could have presented. We told them it was their responsibility and a requirement to read the packet in detail and, we did not have time to get into role-playing scenarios.

Ronda Miles Sent: Tue 1/26/2010 3:33 PM

Add to the agenda for tomorrow our discussion about peer-tutoring: Things I need from you in order to make this thing work:

1. Which days can I depend on you to stay for tutoring and be in your room to supervise?
2. We need some method of knowing a general number of tutors we will need on any given day (ball park #)

3. I am getting all the peer-tutors started and ending in my room. They will get their tutoring assignments and materials from my room every day.

4. If you supervise, you sign their verification form [i.e., Math Check]. Then the student turns the verification form in to me before they get on the bus. Please, no notes because the peer-tutor forgot to pick the proper form up. Send them down to get one. Our peer tutors know what their responsibilities are for getting paid. I will adhere to them strictly so if a student does not have a verification form signed and filled out completely, I will not turn anything in for payment.

5. Keep your students who need to be tutored in your room and take them down for snacks before the tutors arrive in your room. Once this thing gets rolling, I should be able to put each tutor's name on the board with their room and tutoring assignment. The tutor comes in, picks up the verification form, gets their assignment and arrives before you go down for snacks. **MAYBE IT WILL WORK AND MAYBE NOT BUT THAT IS THE PLAN AT THIS POINT.**

6. I had **16 tutors in my room this evening** working very hard with the students they had. The first day has been a success!

On Feb. 8, 2010, we created a Memorandum of Understanding (MOU) between Southwest and UMKC, signed by the principal, for the Peer Tutoring Project payments to students, through School Treasurer Roy Jones.

The number of student tutors varied from 29 to 23, and they tutored 442 hours over Spring semester. The original 29 consisted of 17 9th graders and 12 10th graders, of which 22 were girls.

The last day of Peer Tutoring at Southwest for Spring 2010 was Friday May 7, 2010. (The last day the district ran late busses was the next Wednesday May 12, 2010.) Also, 25 small whiteboards were purchased, but arrived too late to be used this year.

We had planned to start up the Mathematics Peer Tutoring Program again 3-4 weeks after school began in Fall 2010, once the influx of over 1,200 new students had settled down, and we had a good sense of what the new students needed. We planned to revise the previous MOU between Southwest and UMKC to arrange continued payments to students. We intended to start with the most professional core of tutors hired last year, and later add previous tutors who might need additional training, as well as hire new tutors as needed.

However, initially the district told the school that busses would be provided only 2 days a week for the hour after school. By Sept. 10, 2010, we learned that all after school busses were cancelled. This prevented us from re-starting the Peer Tutoring project. Nevertheless, throughout October and November we attempted to revise and renew the MOU we had written for Spring 2010, so that peer tutors could eventually be paid, including meeting with the second Southwest principal Mr. Bolden and Bookkeeper Laura Nagorney on Nov. 5, 2010. But, we were never able to get such an MOU approved or signed. We found an alternate way to get the money to students, bypassing the school.

In late December 2010, Shawn Cardwell, as peer tutor coordinator, managed to initiate a few days of peer tutoring, which continued into the first week of the Spring semester. But the chaos at the school and multiple disruptive changes at the start of second semester delayed peer tutoring beginning again until March 8, 2011.

The number of 2010-2011 student tutors was 13, and they tutored 105 hours over that time. The last day of Peer Tutoring at Southwest for Spring 2011 was Friday May 27, 2011.

Math Videos Project Narrative

Halley Chapman and I discussed this project during Fall 2009, but the Mathematics Team decided it would be best to get the Peer Tutoring Project underway first, and postpone the beginning of this video project until the Spring 2010 semester.

Two related events in Fall 2009 kept our video discussion active for Halley and R. Delaware:

On **September 19, 2009**, R. Delaware attended the one-day “Video Production 101 Workshop” organized by Reel Spirit (registration \$75.00, not paid out of grant funds) and held in Lee’s Summit, MO. The large number of handouts, templates, and other materials and advice received helped with our project. Halley had intended to also attend, but unplanned events intervened.

On **October 3, 2009**, Halley Chapman gave a 45 minute talk titled “**Creating Math Video Shorts with the FLIP Mino Camcorder**” at the 19th annual Kansas City Regional Mathematics Technology EXPO held at UMKC. She detailed our work with her 6th graders in May 2009 to create such videos, from implementation to implications for further work. This talk allowed us to summarize and consolidate what we learned in May 2009.

We created a flyer, announcing the math video project for all grades, 6th, 7th, 9th, and 10th.

35 Math videos were recorded between April 15 and June 3, 2010, four with 10th graders, three with 7th graders, and 28 with 6th graders. Seven were teacher-created, and 28 student-created, but recorded by teachers. All these videos are described in detail later in this report.

On June 1, 2010, the 26 student videos produced in Halley Chapman’s 6th grade classes were judged by R. Delaware and Dr. Eric Hall of the UMKC Department of Mathematics and Statistics. Winning videos, sometimes ties, were chosen in each of her classes. The students working on the winning videos were awarded \$10.00 each on June 2-3, 2010.

On June 17, 2010, R. Delaware was notified by YouTube that the Southwest YouTube Channel, which he started in 2009, had been verified to be “educational” and hence could upload videos longer than 10 minutes duration. He uploaded all completed videos to YouTube at <http://www.youtube.com/user/southwestecc> .

The video project slowed to nearly a standstill during the 2010-2011 academic year, except for a couple of new videos listed below. In the end, 38 videos were posted to YouTube, 32 of them recorded and edited by R. Delaware.

Outcomes

Mathematics Peer Tutoring Project Outcomes

[See **Appendix A, p.18** , for Peer Tutoring photographs and documents. All photographs taken by R. Delaware.]

A “Mathematics Peer Tutoring 2010” video [13:29] is posted on YouTube at:
<http://www.youtube.com/user/southwestecc> , under the “Southwest Documentary Videos” playlist.

Spring 2010

442 hours of tutoring occurred on the 40 shaded days; 2 were paid tutor meeting days

M	T	W	R	F
Jan. 25	26	27	28	29
Feb. 1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
Mar. 1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
Apr. 5	6	7	8	9
12	13	14	15	16
19	20	21	22	23
26	27	28	29	30
May 2	4	5	6	7
9	10	11	12	

Dec. 2010 - Spring 2011

105 hours of tutoring occurred on the 40 shaded days; 1 was a paid tutor meeting day

M	T	W	R	F
			Dec. 2	3
13	14	15	16	17
Jan. 3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28
31	Feb. 1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	Mar. 1	2	3	4
7	8	9	10	11
21	22	23	24	25
28	29	30	31	Apr. 1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29
May 2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27

Mathematics Peer Tutoring funding expended

\$112.73	35 UMKC imprinted spiral notebooks (to be used as logbooks by the 2010 tutors)
\$11.00	150 Copies of SWECC Math Checks at UMKC
\$6.00	100 Copies of SWECC Math Checks at UMKC
\$600.00	Stipend to Ronda Miles, Spring 2010
\$600.00	Stipend to Gislaine Ngounou, Spring 2010
\$40.56	Reimbursement to Gislaine Ngounou, food for two Peer Tutoring orientations, Spring 2010
\$45.87	Black dry-erase markers, 3 boxes
\$1,044.72	25 white dry-erase boards, 18"x24", aluminum frame, and 3 boxes of 12 erasers each
\$3,315.00	Total amount paid to student peer tutors during Spring 2010 for 442 hours of tutoring @ \$7.50/hr
\$600.00	Stipend to Shawn Cardwell, Spring 2011
\$787.50	Total amount paid to student peer tutors during 2010 - 2011 for 105 hours of tutoring @ \$7.50/hr

TOTAL: \$7,163.38 (about 55% of \$13,000 allotted for Peer Tutoring)

Equipment inventory (all now in the possession of the Southwest Mathematics Department)

25 white dry-erase boards, 18"x24", aluminum frame, and 3 boxes of 12 erasers each

Math Video Project Outcomes

[See **Appendix B, p.36**, for Math Video documents.]

38 Math Videos are posted on YouTube at: <http://www.youtube.com/user/southwestecc>

See the following 3 pages for a complete listing.

Of the 38 videos:

- 26 6th grade student videos, Spring 2010 Halley Chapman's classes
- 6 Teacher-created videos
- 2 Advice videos
- 2 Teaching videos
- 2 Documentary videos

Mathematics Video Shorts through Spring 2011 Total: 38 (page 1/3)

Teachers: Isao Osuga Chapa, Halley Chapman, Richard Delaware, Frank Gardella

#	Date Recorded	Title	Type	Length min:sec	Student Grade	Idea By	Recorded By	Directed By
1	04-15-10	One Square Yard = Nine Square Feet (Two versions)	Content	4:46	6	Gardella	Chapman & Delaware	Gardella
2	04-15-10	One Square Yard = Nine Square Feet (Two versions & The "making" of the video)	Content & Teaching	14:36	6	Gardella	Chapman & Delaware	Gardella
3	04-16-10	Decimal Multiplication, Sam & Logan Improvise	Content	2:43	10	Students	Delaware	Students
4	04-22-10	Writing a Linear Equation from a Word Problem	Content	1:21	7	Osuga	Osuga	Osuga
5	05-24-10	Cubes and Squares	Content	1:38	6	Students	Delaware	Students
6	05-24-10	Median, & <u>Bloopers</u>	Content	2:18	6	Students	Delaware	Students
7	05-24-10	Congruent and Similar Shapes	Content	1:38	6	Students	Delaware	Students
8	05-24-10	How to Use Coordinate Grids	Content	4:17	6	Students	Delaware	Students
9	05-24-10	Factor Trees and Prime Factorization	Content	1:15	6	Students	Delaware	Students
10	05-25-10	Making a Stem-and-Leaf Plot	Content	3:35	6	Students	Delaware	Students
11	05-25-10	How to Find the Mean	Content	2:09	6	Students	Delaware	Students
12	05-25-10	Modeling Squares and Cubes	Content	5:07	6	Students	Delaware	Students
13	05-25-10	Prime versus Composite Numbers and Prime Factorization	Content	3:44	6	Students	Delaware	Students
14	05-26-10	Transformations: Translations, Rotations, and Reflections	Content	4:01	6	Students	Delaware	Students
15	05-26-10	Angles in the Real World	Content	3:39	6	Students	Delaware	Students

Mathematics Video Shorts through Spring 2011 (page 2/3)

Teachers: Isao Osuga Chapa, Halley Chapman, Richard Delaware, Frank Gardella

#	Date Recorded	Title	Type	Length min:sec	Student Grade	Idea By	Recorded By	Directed By
16	05-26-10	Hands-On Equations: Lessons 5 & 6, & <u>Bloopers</u>	Content	4:52	6	Students	Delaware	Students
17	05-26-10	Adding Integers (Positive and Negative)	Content	2:39	6	Students	Delaware	Students
18	05-26-10	Hands-On Equations: Lesson 3	Content	2:15	6	Students	Delaware	Students
19	05-26-10	Hands-On Equations Lessons 1 through 3, & <u>Bloopers</u>	Content	4:59	6	Students	Delaware	Students
20	05-26-10	An Angle Inscribed in a Semicircle is Right	Content	5:31	10	Delaware	Delaware	Delaware
21	05-27-10	Dividing Fractions by Fractions	Content	3:55	6	Students	Chapman	Students
22	05-27-10	What's Perimeter?	Content	6:28	6	Students	Chapman	Students
23	05-27-10	The Angles Rap	Content	2:15	6	Students	Delaware	Students
24	05-28-10	Adding Positive and Negative Integers	Content	2:16	6	Students	Delaware	Students
25	05-28-10	The Median Number, & <u>Bloopers</u>	Content	2:57	6	Students	Delaware	Students
26	05-28-10	Similar Shapes with Mr. Lassiter (ends with a Rap)	Content	2:40	6	Students	Delaware	Students
27	05-28-10	Mode and Range	Content	1:55	6	Students	Delaware	Students
28	05-28-10	Possible Candy Combinations	Content	2:12	6	Students	Delaware	Students
29	05-28-10	Area of Rectangles and Triangles	Content	1:33	6	Students	Delaware	Students
30	05-28-10	Multiplying Fractions	Content	2:05	6	Students	Delaware	Students
31	05-28-10	Stem-and-Leaf Plot, & <u>Bloopers</u>	Content	3:28	6	Students	Delaware	Students

Mathematics Video Shorts through Spring 2011 (page 3/3)

Teachers: Isao Osuga Chapa, Halley Chapman, Richard Delaware, Frank Gardella

#	Date Recorded	Title	Type	Length min:sec	Student Grade	Idea By	Recorded By	Directed By
32	06-03-10	Pick-A-Number, Three Grade 7 Classes	Content & Teaching	10:54	7	Osuga	Osuga	Osuga
33	06-03-10	Pick-A-Number, Compilation	Content	4:20	7	Osuga	Osuga	Osuga
34	06-03-10	Advice! College Algebra Students to College Algebra Students	Advice	10:51	10	Delaware	Delaware	Delaware
35	06-03-10	Advice! Trigonometry and Analytic Geometry Students	Advice	5:13	10	Delaware	Delaware	Delaware
36	02-18-10 & 03-12-10	Mathematics Peer Tutoring 2010 (Not edited and posted until mid-June 2010)	Documentary	13:29	6,7,9,10	Delaware	Delaware	Delaware
37	09-25-10	Mathematics Teaching Workshop, Dr. Frank Gardella	Teaching	28:04	Teachers	Delaware	Delaware	Delaware
38	09-29-10 & 10-21-10	Five Teacher Interviews (by Alicen Brown, with Salam Al Shimaily)	Documentary	47:15	11, & Teachers	Brown	Al Shimaily	Brown

Math Video Project funding expended

\$109.93	Four USB drives, and 3 boxes dry-erase markers
\$26.92	PC Headset and microphone
\$818.18	Dell laptop computer with cable lock and surge protector (with UMKC discount)
\$75.00	Microsoft Office for lap top
\$324.65	Two FLIP Mino camcorders from FLIP
\$317.11	Three FLIP Mino camcorders at Amazon discount
\$6.36	Vinyl tiles for One Square Yard video
\$209.96	Two black dry-erase boards, 36"x60", and 2 boxes of neon markers
\$131.11	4 Logitech speaker systems for computers
\$52.59	Craft supplies for math videos
\$138.98	Craft supplies for math videos;
\$31.97	Magnetic numbers for math videos
\$310.00	Payments to students for winning videos Spring 2010 (\$10.00 each student)

TOTAL: \$2,552.76 (about 51% of \$5,000 for Math Videos)

Equipment inventory (all now in the possession of the Southwest Mathematics Department)

- 1 **Dell laptop computer** with cable lock and surge protector
- 5 **FLIP Mino camcorders**
- 4 **Logitech speaker systems** for computers
- 4 **USB drives**, and 3 boxes dry-erase markers
- PC Headset and microphone
- Vinyl tiles for One Square Yard video
- 2 black dry-erase boards, 36"x60", and 2 boxes of neon markers

Results/Impact

Mathematics Peer Tutoring Project

1. Does mathematics peer tutoring improve the academic performance and learning acceleration of the students tutored?

[Ronda Miles, May 18, 2010]

My initial thoughts are that peer tutoring was beneficial for the students who took advantage of the opportunity to work with their peers. The challenge was discriminating between those who really wanted to improve and learn from those who signed up for tutoring merely to have an excuse to stay after school and socialize with friends. In the future, I think more attention should be paid to insuring that all the math teachers who are using peer-tutors understand the expectations we have on our tutors and their role in the supervision of student behaviors while being tutored.

[Isao Osuga Chapa, May 26, 2010]

The students develop a friendly relationship with the tutors who guide them through the work and also serve as mentors to younger students by working and also getting to know each other. Students receive individualized attention and help. Students not also benefit academically but tutors also provide different ways to derive the correct answer.

[Gislaine Ngounou, June 1, 2010]

As I observed the peer tutoring run its course, I saw an increase in the rate of homework completion. I have not analyzed the information numerically but, I noted a positive difference in students' willingness to try or at least pay attention in class because they knew they could stay after school and get one-on-one or small group help in getting the homework done. There are several students who showed significant improvement in their work after they started using the peer tutoring program on a consistent basis.

2. Does mathematics peer tutoring improve the academic performance of the peer-tutors themselves?

[Ronda Miles, May 18, 2010]

Our peer-tutors were top-notch students to begin with. However as they helped others learn I think the lessons solidified their learning and helped the tutors develop a deeper understanding of how others perceive the problem and the misunderstandings they might have. I know there were capable students who had not been working at their full potential who really regretted not performing better so they could have been chosen to tutor. I think in that respect, performance also improved and those students will come to school more motivated to do well next year so they can be one of the "chosen."

[Isao Osuga Chapa, May 26, 2010]

Tutors are not exposed to new material but sometimes they also benefit from recalling how to solve a particular exercise. By communicating orally how to solve a problem, they review the material and reinforce their knowledge. I have seen tutors who might not remember a portion of the content they are tutoring but as soon as they get a "refresher" they catch up and remember the material.

[Gislaine Ngounou, June 1, 2010]

Absolutely! I will say at least 80% of peer tutors academic performance (not only grade wise but class participation) increased as a result of their experience; [the top 7 scores on the EOC were from peer tutors including the only 2-3 students who scored at an advanced level. The top score on the EOC Algebra 1 exam at SWECC was from an ELL student whose self-confidence evolved and math inquiry abilities were sharpened as she became very comfortable with her role as a peer tutor.] The position increased their levels of self confidence while also putting them in a leadership role they felt they had to uphold. Furthermore, peer tutors became a lot more responsible about completing their own assignments because they knew they were accountable for helping someone else after school. I had several instances of peer tutors asking for additional work to review skills/concepts they may have forgotten over the years but suddenly realized they needed to do a good job.

3. Does mathematics peer tutoring improve the classroom learning environment?

[Ronda Miles, May 18, 2010]

Once students became aware of the program and identified who the tutors were, they were quick to gravitate to them in class for assistance. I also felt that I could call on them to assist weaker students in class. Knowing that our peer-tutors understood that their role was to help others understand the material and not just provide the answers to the homework, also allowed me to feel more comfortable asking them to step up and demonstrate or help struggling students in class.

[Isao Osuga Chapa, May 26, 2010]

It provides more time and room for enrichment, remediation and overall differentiation. The classroom as a whole benefits from being exposed to math from different people. Thus, as a teacher, I can step back and simply guide the discussion students and tutors are having.

[Gislaine Ngounou, June 1, 2010]

I would say peer tutoring indirectly improve the classroom learning environment in that students are more willing to pay attention and try once they know they can finish the work started in class by getting help from a peer/classmate afterschool. It diminishes the sense of hopelessness students often have. Moreover, once peer tutors were encouraged to take on a leadership role within the classroom as well and rose to the expectation, students started helping each other more and this helped create a more cooperative environment. It was extremely beneficial to the learning environment/process whenever possible to sit students in groups of 4 during class and have a peer tutor present in each group. I had a student (Daejah Martin) whose ability to ask open-ended questions and guide her peers without simply telling them how to solve problems improved so much as a tutor that I would often let her take the lead in explaining or review concepts in whole class discussions.

4. Does mathematics peer tutoring increase the school sense of community progress toward college readiness?

[Ronda Miles, May 18, 2010]

I certainly hope a sense of community responsibility for educating each other and developing a common focus is a direct result of our peer-tutoring program. It has always been my philosophy that competition is healthy and one of our best opponents is our self. At the same time, surrounding yourself with good people is another way to achieve more and lifting each other up builds strength in the entire school. A culture of achievement is what I hope we are creating at SWECC through the peer-tutoring program.

[Isao Osuga Chapa, May 26, 2010]

Yes. Students make "small talk" while working which fosters a sense of community that is pushing towards academic excellence. Tutors help younger students and, at the same time, become role models for them. I have also seen how tutors step up to high expectations when they are reminded that their behavior is being observed by people who look up to them.

[Gislaine Ngounou, June 1, 2010]

As we continue to grow, I anticipate that the peer tutoring program will be a stronger catalyst in building a sense of community and promoting college readiness among students. Older students served as mentors to younger students who looked up to them. As a facilitating teacher, I often heard conversations among students that went beyond mathematics. They were often encouraging each other to take work/school seriously, to make better decisions, to keep trying. Students were a little apprehensive of the peer tutoring program in the beginning but, they quickly began to form bonds with tutors, requested specific tutors at times and came back on a more consistent basis once they realized that their needs were being met.

Selected Mathematics Peer Tutor Comments:

[Erika Watson, May 12, 2010]

"Tutoring this year was quite an experience. At the beginning the pay was delayed, but I believe and hope that this issue is addressed and will not happen next year. Some students, especially 7th [grade], don't want to pay attention, only expecting an answer. Some days the students don't want to be tutored, they just want to come and catch up on their work. So maybe there should be a section of catch-up work and a section of peer tutoring, not to get those confused."

[Roda Mohamud, May 12, 2010]

"The good thing about tutoring was the getting paid part and the feeling of getting to teach people what I know. There were actually people who wanted to know and other people not so much. The bad thing about the tutoring is people, or kids I should say, that don't want to do anything and I'm not naming names but they just want the answers and [do] not care [about] what they are learning. Some can't focus. But, don't let friends teach friends, cause it doesn't work!"

Note:

We were only partially able to answer the central research question:

Primary Measures: Do the students who are tutored do better after the tutoring than before?

Secondary Measures: Do the students who tutor do even better in mathematics than they did before the tutoring?

Mathematics Video Project

On **October 3, 2009**, Halley Chapman gave a 45 minute talk titled “**Creating Math Video Shorts with the FLIP Mino Camcorder**” at the 19th annual Kansas City Regional Mathematics Technology EXPO held at UMKC. She detailed our work with her 6th graders in May 2009 to create such videos, from implementation to implications for further work. This talk allowed us to summarize and consolidate what we learned in May 2009.

On **October 2, 2010**, Isao Osuga Chapa and Richard Delaware gave a 45 minute talk titled “**FLIP Math Video Shorts: A Fresh Archive of Students Teaching Students**” at the 20th annual Kansas City Regional Mathematics Technology EXPO held at UMKC. We further described the video process and showed several shorts.

User comments posted on YouTube:

April 20, 2011, RE: “**Math Short 2010: How to use Coordinate Grids (SWECC Grade 6)**”: “Didn’t pass my GED test the other day so this is helping a lot. Thanks.”

July 16, 2011, RE: “**Math Short 2010: Hands-On Equations Lesson 3 (SWECC Grade 6)**”: “I got it for my 6th grade test.”

Note:

We were unable to gather data to answer the central research question:

Primary measures: Do the students perform better on assessments after they see the videos than before?

Secondary measures: Do the students who make the videos do better on the questions addressed by the videos than the students who only see the videos?

For Both Projects

The remaining SWECC and UMKC mathematics faculty are still considering a **case study manuscript** for one or more of the following journals:

- Journal of STEM Education: Innovations and Research
- Journal of Urban Mathematics Education
- Mathematics Teaching in the Middle School (NCTM)
- The Mathematics Teacher (NCTM, high school)
- ON-Math (NCTM; electronic media)
- Loci (MAA, web media; the journal of MathDL)
- Journal of Mathematics Teacher Educators (JMTE)

Plans for Continuation

Mathematics Peer Tutoring Project

Funding Options and Ideas

1. April 12, 2011

R. Delaware met with third Southwest principal Ben Boothe, who indicated it was unlikely that the district would have funds to support mathematics peer tutoring for 2011-2012, and that we should look elsewhere for support.

2. June 7, 2011

R. Delaware wrote a one-page "**Mathematics Peer Tutoring Proposal Southwest Early College Campus**" to be distributed by Ronda Miles and Brian Anderson to the Southwest Boosters organization at their next meeting.

3. June 9, 2011

R. Delaware wrote an article asking for support in the "**WE ARE SOUTHWEST June 2011 Newsletter**" of The Community Outreach Committee – Community based Engagement and Outreach with Southwest Early College Campus, P.O. Box 7294, Kansas City, MO 64113. As of this date, there has been no response.

4. July, 2011

The **Pepsi Refresh Project** [<http://www.refresheverything.com/index>], has its 6th Grant Cycle (for education) requiring submission between Sept. 1 and 5, with voting in October, and finalists announced in November. I think we would apply for the \$5K amount, since the money has to be used within 9 months and it is unlikely we could use \$10K.

5. July, 2011

We are looking into creating a Southwest Mathematics Peer Tutoring "small business" bank account at Commerce Bank in Brookside, to be administered by R. Delaware and the Southwest Mathematics Dept. Chair to disperse mathematics peer tutoring funds. The thought of creating an independent non-profit 501(c)(3) corporation has also been raised.

Mathematics Video Project

Since we have several FLIP camcorders, this project just needs to be advertised widely to our mathematics teachers. We have shown a variety of different types of video possible and hope to inspire our new mathematics teachers to create videos in what we hope will be a calmer school environment.

An additional incentive is the recently (January 5, 2011) announced addition to the local "Reel Spirit: Young Filmmaker Showcase", held in March, of a new "STEM category" for submissions. They have one division, middle school, that our 7th and 8th graders would be eligible to enter with up to 4 minute long video shorts. We hope to encourage some entries for Spring 2012.

Appendix A



Mathematics Peer Tutors

Initial Group

May 12, 2010

Top Row:

Rubi Ramirez Vega, Lamonica Locke, Erika Watson, Roda Muhamad, Sughey Sandoval, Dominique Martin, Jorge Sosa, Daejah Martin, Meia Gibson, Jazmin McDaniel, Logan Masenthin, Angel Thurmon, Estefania Espinosa, Jhon St. Paul, Marria Tran

Bottom Row:

Quiara Abernathy, Jessica Leon, Cristal Osorio, Jessica Osorio, Taylor Rand

Not Present:

Samantha Curfman, Jose Silva, Emilio Donnelly Ramos, Binh An Nguyen, Juan Bocanegra



Feb. 18, 2010



Feb. 18, 2010



Feb. 18, 2010



March 12, 2010



March 12, 2010



March 12, 2010

Some Academic Remarks and Research on Peer Tutoring

- **Peer interaction can have a powerful influence on academic motivation and achievement** (Light & Littleton, 1999; Steinburg, Dornbusch, & Brown, 1992; Wentzel, 1999).
- **Socialization experiences that occur during peer tutoring can benefit both the tutor and tutee by motivating students to learn and increasing their social standing among peers** (Fuchs, D., Fuchs, L.S., Mathes & Martiniez, 2002; Rohrbeck et. al, 2003; Miller & Miller, 1995).
- **When students understand the benefits of peer tutoring and have the tools to become effective tutors and tutees, they make greater progress than those who are not given any instruction on how to work together** (Fuchs, L.S., Fuchs, D., Hamlett, C.L., Phillips, N.B., Karns, K., & Dutka, S., 1997).
- **Peer tutoring increases response opportunities for students, provides additional time for positive feedback, and increases the amount of time a student is on-task** (Maheady, 2001).

Bibliography associated with the remarks above

Fuchs, L. S., Fuchs, D., Hamlett, C. L., Phillips, N. B., Karns, K., & Dutka, S. (1997). Enhancing students' helping behavior during peer tutoring with conceptual mathematical explanations. *Elementary School Journal*, 97(3), 223-250.

Fuchs, D., Fuchs, L.S., Mathes, P.G. & Martinez, E.A. (2002). Preliminary evidence on the social standing of students with learning disabilities in PALS and No-PALS classrooms. *Learning Disabilities Research & Practice*, 17(4), 205-215.

Light, P.L., & Littleton, K. (1999). *Social processes in children's learning* (pp. 91-100). Cambridge, England: Cambridge University Press.

Maheady, L. (2001). Peer-mediated instruction and interventions and students with mild disabilities. *Remedial & Special Education*, 22(1), 4-15.

Miller, S.R., & Miller P. F. (1995). Cross-age peer tutoring. A strategy for promoting self-determination in students with severe emotional disabilities/behavior disorders. *Preventing School Failure*, 39(4), 32-38.

Rohrbeck, C.A. et al. (2003). Peer-assisted learning interventions with elementary school students: a meta-analytic review. *Journal of Educational Psychology*, 95(2), 240-257.

Steinberg, L., Dornbusch, S.M., & Brown, B.B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist*, 47, 723-729.

Wentzel, K.R. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding motivation at school. *Journal of Educational Psychology*, 91, 76-97.

Southwest Early College Campus

Revised: 30 Nov. 2009

Mathematics Tutoring Check

Student Tutor Name _____ Date of Tutoring _____

Activities [Student(s) tutored, Exact topics covered, Tutor Comments; Use back if needed.]:

Number of Tutoring "Hours" (defined as between 50 and 70 minutes) : _____

Supervising Teacher Signature: _____ Date _____

Student Tutor Signature: _____ Date _____

*Not complete without both signatures **RETURN** to Peer Tutoring Supervisor for Payment

[The Flyer – passed out to 9th and 10th grade students selected by the teachers]

Southwest Early College Campus

Put Your Hard Work to Use !

\$7.50/hr

You have been selected to participate in a tutoring program for mathematics students at Southwest Early College Campus. Compensation will be at a rate of \$7.50 per hour.

Scheduled interviews will begin at 3:00 Tuesday, December 8 and conclude Thursday, December 10.

If you would like to interview for one of these positions, please see Ms. Miles in room 210 prior to Monday, December 6 to schedule an appointment.

Tutoring will take place after school four days a week. You may work as many days as your schedule will allow.

You do the math!

Southwest Early College Campus

Rev. 12-07-09

Mathematics Peer Tutoring Application

Your Name: _____ Phone/Cell Phone: _____

Your Grade (circle one): 9 10 11 12 Email address (if any): _____

What days of the week next semester after school could you absolutely **NOT** be available for tutoring? Make your best guess. [This will not affect our decision whether to hire you; we just need to be able to plan.] (Circle as many as needed.)

Not Tuesdays Not Wednesdays Not Thursdays Not Fridays Most days are OK.

Why do you want to be a mathematics peer tutor?

What do you think will be your greatest strength as a peer tutor?

What do you think you might need to work on to learn to be a good, or better, peer tutor?

How do you personally feel about mathematics? Do you like it? Do you find it challenging but satisfying? Tell us what you think.

What effect do you hope your tutoring will have on the students you tutor?

Southwest Peer Tutoring Interview Questions

- Tell us about yourself, your interests, your family, hobbies, extracurricular activities, and so on, besides the fact that you are good at math. What are your personal or career goals?
- What do you think are the characteristics of a good tutor or teacher? Examples from your past? What did you like about the good teachers? What did you dislike about the bad ones?
- Do you have any previous experience tutoring or teaching (Brothers, sisters, relatives, friends, etc.)? How did you like that? How did they like you?
- How would you handle the case of a student coming to tutoring who is angry about having to be there, angry about his or her performance in math, angry at his or her teacher, and so on? How would you manage this situation?
- How would you handle the case of a student coming to tutoring who says “I don’t understand anything!”, or just wants to “play around”, or doesn’t want to work? How would you get started with them?
- What if the student you are tutoring still doesn’t understand, even after you have explained something? What would you do next?
- What would you do if you find you cannot answer a student’s question about some mathematical topic?
- Will being a peer tutor cut into your own study time? Do you think you will be able to maintain your own grades? Are you a busy person? In short, can we rely on you?
- What do you think you yourself would learn by being a tutor?
- The BIG question: Why should we hire you?
- Do you have any questions for us?

[The 2009-2010 Offer Letter – printed on Department of Mathematics and Statistics stationary, & signed by all four of us.]

21 December 2009

From: Southwest Early College Campus Mathematics Team

Mr. Jose Silva:

Congratulations!

We are pleased to offer you a position as a Peer Tutor in Mathematics at Southwest Early College Campus for the second semester of this academic year, beginning January 11, 2010. You will be paid \$7.50 per hour of tutoring done, as part of a grant for this project from PREP-KC to the Southwest Mathematics Team. You may tutor up to four hours a week as your schedule allows. We intend that most tutoring will happen during the 2:15-3:30 time period on Tuesdays through Fridays, in certain rooms that we will designate.

After Christmas break, during the week of January 4-8, 2010, we will hold an Orientation/Training Meeting on one or more days during that 2:15-3:30 period. You must attend this meeting before you will be allowed to begin tutoring. You need only attend one such meeting, though we may offer it more than once that week to accommodate everyone's schedule. There will also be regular performance reviews of your work every few weeks throughout the semester.

Ms. Ngounou and Ms. Miles will be the day-to-day Southwest campus coordinators of this program. If you have any questions, talk to them.

Have a wonderful Holiday season, and you'll have this job to look forward to in January!

Sincerely,

Gislaine Ngounou, 9th grade Algebra I, Southwest Early College Campus

Ronda Miles, 10th grade Geometry, Southwest Early College Campus

Shawn Cardwell, 10th grade College Algebra, and Trigonometry, Adjunct Lecturer, Department of Mathematics and Statistics, University of Missouri - Kansas City

Dr. Richard Delaware, Associate Professor, Department of Mathematics and Statistics, University of Missouri - Kansas City

8 February 2010

**Memorandum of Understanding between
Southwest Early College Campus and the University of Missouri – Kansas City
Regarding the Mathematics Peer Tutoring Project, Spring 2010**

The University of Missouri - Kansas City (hereafter “UMKC”) agrees that all payments made to Southwest Early College Campus (hereafter “Southwest”) students, hired as mathematics peer tutors in the Mathematics Peer Tutoring Project grant, coordinated by Dr. Richard Delaware in the Department of Mathematics and Statistics, for their hours worked, will follow this procedure:

- Every two-three weeks from now into June 2010, until school ends at Southwest, an invoice, including a list of the student tutors to be paid, along with their individual payments, as well as the total amount required to pay all these student tutors at \$7.50/hour for that two-three week period, will be sent from Southwest to UMKC (i.e., Dr. Delaware, who will forward it onward.)
- Upon receipt of the invoice, UMKC will issue a check made out to “Southwest Early College Campus” for that amount, and mail it to Southwest, addressed to “Roy Jones, Southwest Treasurer”, Southwest Early College Campus, 6512 Wornall Road, Kansas City, MO 64113.
- Roy Jones will cash that check and see that the money is dispersed to the students involved. He will afterward send a report to UMKC stating that the students have actually received the cash.

Southwest accepts all responsibility for the disbursement of these funds in cash to the appropriate students.

_____ Date: _____

William T. Morgan, Ph.D., Interim Vice-Provost for Research, UMKC

_____ Date: _____

Steve Scraggs, Principal, Southwest Early College Campus

The Peer Tutor Orientation Packet included the following 5 pages:

Twenty-five Pointers for Tutors

Expectations

- Be on time. Report to your tutoring assignment at 2:20pm exactly.
- Be respectful (of yourself, teachers and your tutee)
- Be responsible (be present, maintain records, notify supervisors of issues etc.)
- Treat your tutees as equals.
- Don't worry about mistakes - they provide the best opportunity for teaching and learning.
- Don't be critical of your tutees.
- Recognize your differences, a vital step to building a tutoring relationship.
- Recognize your commonalities, a vital step to building a tutoring relationship.
- Be supportive of tutees' efforts as well as their accomplishments.
- Make learning active, fun, visual, and hands-on.
- Keep your eye on the significance of your effort in your tutees' lives.
- Do not use bribes or gifts to motivate your tutee.
- Be willing to share your experience when you think it's appropriate.
- Don't make empty promises.
- Don't forget how important you are - your tutee depends on you.
- Use differences between you and your tutee to open up honest conversations.
- Forgive your errors and those of your tutee-they were unintentional.
- Be hopeful and open-minded.
- Be empathetic toward your students and their experiences.
- Be observant and pay attention to what your tutees enjoy and how they learn.
- Incorporate tutee interests into your activities and assignments.
- Be creative.
- Set educated goals and strive for them.
- Ignore labels - they only show you part of a person.
- **Remember that your student has much to teach you as well!**

Adapted from Tutoring Matters: *Everything You Always Wanted to Know About How to Tutor* By Jerome Rabow, Tiffani Chin & Nima Fahimian.

Guidelines for Tutors

Building Blocks of Effective Tutoring

1. **Good tutoring is based on mutual respect and trust...**never on an attitude of condescension. Curb any inclination to impress. You are there to help.
2. **Use reflective Questioning.** This technique will help you with many of the other building blocks that follow.

When you are asked a question, rephrase it, break it into parts and reflect it back to the group or student for response. The purpose of this is to generate discussion, get students to make connections *themselves* and pull information together. It may be easy for you, a knowledgeable tutor, to answer questions directly. However, if students reason out the answer or put the pieces together themselves, they are far more likely to remember:

3. **Teach students how to learn.** Don't just solve the student's problem. Work the concepts.
4. **Make sure the student understands** the problem and the associated vocabulary.
5. **Be understanding of student needs.** Pay attention to student reactions and learn to "read" them.
6. **Tutor to the situation.** Don't go beyond the immediate need.
7. **Develop a sense of empathy.** Recall a class that was difficult for you and remember that not all students find the same subjects easy to understand.
8. **Use different approaches** in problem solving.

Guidelines for Tutors

1. **Develop a sense of trust.** Do not laugh or make fun of the student. Everyone has a subject or class that they do better in than others.
2. **Tutors should make things easy** for the student to understand. Give different examples. Think of alternative ways to explain the idea or subject.
3. **Do not be afraid to admit that you don't know something.** Do not give incorrect information to "save face."
4. **Ask questions** that require more than a yes or no answer. *Examples:* Can you tell me why this happens? Why is it done this way? What do you think should be done next?
5. **Your students should be able to explain** what they have learned to you and what they do not understand or feel they can't learn. Ask the student to explain what they've learned from you.
6. **Be a good listener** and a good role model.
7. **Have fun** while tutoring and learning.
8. **Never do the student's homework** or answer the questions for them. This does not help them or teach them.
9. **Build on what the student already knows.** Simplify the process as much as possible. Often students over-complicate the material.
10. **Just because** they look like kids, it doesn't mean that they live like children.
11. **Bad attitudes** often make up for the fear students feel when trying to compete in class.
12. **Emphasize that mistakes are corrected,** not used as an excuse to quit.
13. **The only attention most kids know** is negative, and positive strokes are something they don't understand.
14. **When they tell you it's boring,** they may mean they are having a hard time and would rather turn their attention to something else. **Take a short break.**

Effective Math Tutoring Tips

Come prepared

Walking into a tutorial session prepared sends a clear, strong message to the students of the importance and pride you as a tutor place on the upcoming session. It is especially meaningful to follow up with the plan of action, objectives, and goals set during the last tutorial session.

To do this, tutors model to the student a commitment and enthusiasm by coming prepared. Coming prepared includes:

- Overcoming personal anxieties
- Feeling comfortable with the subjects/material
- Having a positive attitude and utilizing all available resources.
- Being on time

Five basic steps for assisting math students

Step one:

Always make sure the student has set the problem up correctly; you may look at the problem in the book or refer to the student's notes from class.

Step two:

Ask student to explain the procedure s/he is using to solve the problem. You can troubleshoot and listen for erroneous logic or incorrect procedures at that time.

Step three:

Reinforce any correct procedures (e.g. "This part is done correctly", or "You are target here".) Then identify incorrect logic and ask the student to consider what else s/he might try. You can provide a hint, but avoid explanations until after the student has attempted a guess. (E.g. "When you add unlike fractions, what do you do first?")

Step four:

To check for understanding have the student re-explain the procedure to you. Avoid asking questions like, "Does that make sense to you?" and "Do you understand now?"

Step five:

Disengage!

Encourage the student to work the next problem on his/her own, but let him/her know you will check back. Do not get drawn into working the next problem with an insecure student. S/he needs to develop the ability to apply what s/he is learning without your supervision.

Five tips for math tutors

1. **Guide student:**

A math tutor should guide a student through the solution process. Ask the student leading questions that will direct the student towards the correct steps.

Avoid doing problems for the student.

If the student cannot get the correct answer and asks for help, the tutor should look at what the student has done and try to locate the error. Then have the student work a similar problem to make sure he/she has grasped the concept or procedure.

2. **Teach Concepts**

The tutoring goal should be to help students become an independent learner. In mathematics, it is important to teach concepts rather than just processes or procedures. For example, the tutor should explain why it is important to follow the "order of operations" rule, rather than just showing the student how to do it.

Understanding the concepts makes remembering the procedures easier.

3. **Encourage Students to Attend Class**

Some students believe getting help from a tutor is a substitute for attending class. Students having difficulty in math must realize time spent with a tutor is additional to classroom time.

4. **Address Math Anxiety**

Tutors will deal with students with varying degrees of math anxiety. Tutors should avoid using phrases such as, "this is easy." Such phrases intimidate the student. If the student suffers from a high degree of math anxiety it may be helpful to refer the student to a counselor. Sometimes it is helpful to learn about the student's math background. If the tutor believes the student is enrolled in a course the tutee is not ready for, talk to the instructor.

5. **Don't Confuse the Student!**

If the tutor is unsure of a mathematical procedure or concept, s/he should use all the resources available (including notes, books, and checking with a math instructor). It is helpful to find out what approach the text or instructor is using on a particular problem. A tutor using the same technique as the text or instructor will reinforce the concept or procedure, whereas using a different approach can confuse the student.

Tutors are strongly encouraged to stay in touch with instructors of the students they work with.

The abovementioned tips were adapted from Lower Columbia College's *Tutor Training Handbook*, George Dennis, Supervisor.

Tutor Code of Ethics

Code of Ethics from National Association of Tutorial Services

1. Subject proficiency and knowledgeability have top priority.
 2. **My major motivation is building the student's self-confidence.**
 3. My student deserves and will receive my total attention.
 4. **The language my student and I share must be mutually understood at all times.**
 5. I must be able to admit my own weaknesses and will seek assistance whenever I need it.
 6. **Respect for my student's personal dignity means I must accept that individual without judgment.**
 7. My student will constantly be encouraged but never insulted by false hope or empty flattery.
 8. **I will strive for a mutual relationship of openness and honesty as I tutor.**
 9. I will not impose my personal value system or lifestyle on my student.
 10. **I will not use a tutoring situation to proselytize my personal belief system.**
 11. Both the student and I will always understand my role is never to do the student's work.
 12. **I count on my student to also be my tutor and teach me ways to do a better job.**
 13. I will do my best to be punctual and keep appointments, not only out of courtesy, but also as an example for my student to follow.
 14. **I will maintain records, lesson plans, and progress data as expected and required.**
 15. I will do my best to stay abreast of the current literature about tutoring as it relates to my work.
 16. **Good tutoring enables my student to transfer learning from one situation to another.**
 17. Making learning real for the student is what tutoring means and is an important part of my goal.
 18. **My ultimate tutoring goal is my student's independence.**
-

June 9, 2011

From: **WE ARE SOUTHWEST June 2011 Newsletter** – The Community Outreach Committee – Community based Engagement and Outreach with Southwest Early College Campus, P.O. Box 7294, Kansas City, MO 64113

Mathematics Peer Tutoring Program Needs Financial Support

We initiated a Mathematics Peer Tutoring job program at Southwest in Spring 2010 due to a generous grant from Prep-KC. Peer tutoring has a powerful influence on academic motivation and achievement for both the tutor and tutee, and it helps knit together the social and academic fabric of the school ("We're all in this together!"). Not to mention, tutoring increases the social standing of tutors among their peers, the amount of time tutees have on task, and even more, paid tutoring elicits the pride of employment.

Here's how it has worked: Southwest high school students are invited to interview for peer tutor positions based on their academic performance in mathematics; each student completes an application form, and is interviewed by a panel of 2-4 mathematics teachers including Dr. Delaware from UMKC; if hired, the students receive an offer letter on UMKC Department of Mathematics and Statistics stationary, signed by the teachers. We paid these peer tutors \$7.50/hour and monitored their work schedule. In Spring 2010, peer tutors numbered from 29 to 23, tutored a total of 442 hours, and in all acted very professionally. The program was a popular success. For a brief video snapshot, see "Mathematics Peer Tutoring 2010 SWECC" [by clicking here](#) in the "Southwest Documentary Videos" playlist. We spent about \$4,000 on tutor payments in the single semester Spring 2010, including a small stipend of \$600 for the coordinating mathematics teacher. In Fall 2010, we intended to hit the ground running. But the absence of after-school busses, and other chaos, kept us from reviving the program until late in Spring 2011. We are finishing this year with 11-12 working peer tutors.

But, the grant period has now ended, and we must find sustainable financial support for next year and beyond, likely from several sources. We do not expect school or district support due to limited budgets. So, we are asking for help from all quarters. If you have any funding ideas or would like to help, please contact Dr. Richard Delaware of UMKC at delawarer@umkc.edu. Thanks!

Author: R. Delaware

Mathematics Peer Tutoring Proposal

Southwest Early College Campus

Brief Narrative

The Southwest Mathematics Team initiated a Mathematics Peer Tutoring job program at Southwest in Spring 2010 due to a generous grant from Prep-KC. Here's how it has worked: Southwest high school students are invited to interview for peer tutor positions based on their academic performance in mathematics; each student completes an application form, and is interviewed by a panel of 2-4 mathematics teachers including Dr. Delaware from UMKC; if hired, the students receive an offer letter on UMKC Department of Mathematics and Statistics stationary, signed by the teachers; we then hold an orientation for new peer tutors, organize individual work schedules (1-4 tutoring hours/week), and pay them \$7.50/hour. In Spring 2010, peer tutors numbered from 29 to 23, tutored a total of 442 hours, and in all acted very professionally. The program was a popular and academic success. At the end of the semester, in preparation for the upcoming year, we purchased 25 aluminum frame, 18"x24" dry-erase white-boards for tutors to carry with them to the various classrooms where they work under the supervision of a mathematics teacher.

For a brief video snapshot, see "Mathematics Peer Tutoring 2010 SWECC" [13:29] in the "Southwest Documentary Videos" playlist on YouTube at <http://www.youtube.com/user/southwestecc> .

We spent about \$4,000 on tutor payments in the single semester Spring 2010, including a stipend for the coordinating Southwest mathematics teacher. In Fall 2010, we intended to hit the ground running. But the absence of after-school busses, and other chaos kept us from reviving the program until late in Spring 2011. We are finishing this year with 11-12 working peer tutors.

But, the grant period has now ended, and we must find sustainable financial support for next year and beyond, likely from several sources. Through various queries we do not expect school or district support due to limited budgets. So, we are asking for help from all quarters.

Benefits to Students and to Southwest

Peer tutoring has a powerful influence on academic motivation and achievement for both the tutor and tutee, and it helps knit together the social and academic fabric of the school ("We're all in this together!"). Not to mention, tutoring increases the social standing of tutors among their peers, the amount of time tutees have on task studying mathematics, and even more, paid tutoring elicits the pride of employment.

Projected Cost

- Up to \$4,000 each semester Mathematics Peer Tutor pay at \$7.50 per hour of peer tutoring
- \$600 each semester Stipend for coordinating Southwest Mathematics Teacher

Contacts for Further Information

- Primary Contact: **Dr. Richard Delaware**, UMKC Department of Mathematics and Statistics, delawarer@umkc.edu .
 - Additional contact: **Ronda Miles**, Southwest Mathematics Department Chair, rmiles@kcmsd.net .
-

Appendix B

Film Project Checklist

[Halley Chapman, used with Grade 6, Spring 2010]

Name: _____

Group members: _____

Topic: _____

Due Date: _____

- Select topic from list
- Brainstorm ideas for film with group members
- Write first draft of script for 3-5 minute film, assign roles, and make list of props needed for film
- Type final draft of script and submit to Ms. Chapman for approval
- Create title for the film
- Rehearse film until everyone knows what to do, say, etc. without looking at script
- Complete a “final rehearsal” with Ms. Chapman and get approval
- Record film with Dr. Delaware or Ms Chapman

Alicen Brown Video Project initiated September 10, 2010

Objective: to show the transition of Southwest Early College Campus from 2009-2010 to 2010-2011 through the eyes of students and faculty

Plan:

1. Interview students and faculty that were at SWECC 2009-2010

key questions:

- Why did you choose to attend/teach at SWECC?
- How did they found out about the transition?
- What was their initial reaction?
- How did they expect things to go?
- How did they feel the first two weeks went?
- What are the biggest changes they've noticed from last year to this one?
- How do they feel about the future of the school?

2. Interview students that came from other schools

key questions:

- Was their school closed? (If so) how did they feel about that and having to come to SWECC?
- What was their reaction?

Ask a few questions from above from number 1.

3. Interview Mr. Scraggs and Dr. Covington

Key Questions for Mr. Scraggs:

- What made SWECC different from schools he has worked with in the past?
- How did he find out about the transition?
- How did he feel it would affect the school and students?
- How did he feel the first two weeks went?
- How does he feel about the future of the school?

Key Questions for Dr. Covington:

- How did he and the school board come up with the right sizing plan?
- What is the right sizing plan; and how was it supposed to work?
- Does he have any regrets in the way the plan was carried out? (the way schools were combined and the decision to close alternative schools)
- How did he feel the plan would affect SWECC? (Was it what he expected?)

4. Film classes: how they are conducted, crowded or not, student-teacher interactions

5. Film hallways and kids getting on buses

6. If possible interview community members and parents on their opinions on the transition SWECC has been through

Southwest Early College Campus Mathematics Team

For team member bio-pages see: <http://cas.umkc.edu/Mathematics/MathSWECCTeam.asp>

Year 1 2008-2009	Year 2 2009-2010	Year 3 2010-2011	Year 4 2011-2012
Morse [Dual Credit]	[Winnetonka HS, KCMO]		
Chapman	Chapman	Chapman [PLTW]	[Kauffman Scholars Life Coach]
Ngounou	Ngounou	Ngounou [Instr. Coach]	[Harvard doctoral program]
	Osuga [TFA]	Osuga [TFA]	[Alta Vista Charter School, KCMO]
	Miles	Miles	Miles
	Cardwell [UMKC Adjunct]	Cardwell [Dual Credit]	[Nonrenewal Letter]
		Haehl [UMKC Adjunct, Sem. 1]	
		Sellers [UMKC Adjunct, Sem. 1]	
		Anderson [TFA]	[End of 2 yr TFA contract]
		Adams	[Retired]
		Stowers	[Retired]
		Gray	[Retired]
		Paige	[Nonrenewal Letter]
		Simmons	Simmons ?
		O'Dell	O'Dell
		Morrison	[Nonrenewal Letter]
Delaware [UMKC]	Delaware [UMKC]	Delaware [UMKC]	Delaware [UMKC]
Gardella [Hunter, WW, Sem. 2]	Gardella [Hunter, WW]	Gardella [Hunter, WW, Sem. 1]	Gardella [Hunter, WW] ?

KCMSD (Kansas City Missouri School District) Employees, except where otherwise indicated, **Sem** = Semester, **PLTW** = Project Lead The Way,

UMKC = University of Missouri – Kansas City, **TFA** = Teach for American Corps, **Hunter** = Hunter College, NY, **WW** = Woodrow Wilson Fellowship Foundation