

Kentucky Center for Mathematics:
2007-2008 Coaching Program Evaluation

Summary of Results

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**Kentucky Center for Mathematics: 2007-2008 Coaching Program Evaluation
Summary of Results**

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The Kentucky Center for Mathematics: 2007-2008 Coaching Program Evaluation

Introduction

The Kentucky Center for Mathematics (KCM) was formed, through an appropriation given to Northern Kentucky University from the Council on Postsecondary Education (CPE), with the goal of enhancing the teaching of mathematics at grades K-12 in order to maximize student learning of mathematics within the Commonwealth of Kentucky. This report summarizes an evaluation of the KCM's Coaching Program.

The Mathematics Coaching program is designed to develop coaches who work with both small groups and one-on-one with mathematics teachers (henceforth "coachees") to help those teachers adopt instructional methods that will enhance student learning of mathematics. Coaches may work within single schools or within a school district. As stated on the KCM website (<http://kentuckymathematics.org>), the goal of the state mathematics coaching program is to train coaches to assist their peers in taking instructional ideas and translating them into actions that improve student learning. The KCM supports mathematics coaches by providing high quality training and sustained support for professional growth in: a) developing a coach's identity as a mediator of thinking for individuals and for groups; b) developing a coach's capacity to effectively balance their roles of coach, consultant, and collaborator; and c) developing a coach's facilitative skills and leadership abilities in order to support change within their schools and/or districts. The KCM collaborated with three training programs to provide professional development. The coaching model adopted in Kentucky for mathematics coaches was Cognitive CoachingSM. The vendor is The Center for Cognitive CoachingSM (www.cognitivecoaching.com). The Coaching Classroom Management training was conducted by The Center for Research on Learning (www.instructionalcoach.org). A third vendor, Edvantia, provided a course called Questioning and Understanding to Improve Learning and Thinking -QUILT (www.edvantia.com).

The University of Cincinnati Evaluation Services Center (UCESC) served as an external evaluation consultant to the KCM programs. Dr. Debbie Zorn is the director of UCESC and provided general oversight of the evaluation. Dr. Karen Ludwig, Dr. Cathy Maltbie, and Dr. Jerry Jordan, Evaluation Associates at UCESC, served as the primary evaluators. Audra Morrison, UCESC executive staff assistant, provided other support.

Purpose of the Evaluation

The purpose of this evaluation is to assess the general effectiveness of the Coaching Program as implemented in Kentucky schools by the KCM. While increasing students' achievement in and understanding of mathematics is the ultimate purpose of the KCM, assessing changes in the mathematics abilities of the students whose teachers participate in the coaching program is planned for future academic years, however baseline data is included.

The KCM seeks to accomplish its purpose through training, resources, and support offered to teachers being trained as coaches within their school or district. Additional components of the evaluation examined coaches' and coachees' pedagogical and content knowledge, attitudes towards mathematics (how children learn mathematics, self-efficacy towards mathematics, and the nature of mathematics), and, finally, the availability of resources for schools, teachers, and those students who participate in these programs.

Evaluation Questions

The evaluation activities performed by UCESC were guided by the following three questions:

1. To what extent does the KCM provide the training, materials and support to coaches that enhances the coaches' ability to effectively coach other teachers?
2. To what extent does the KCM create an environment that is conducive to building mathematics capacity?
3. To what extent does the KCM, through its Coaching Program, expand teachers' mathematical content knowledge, pedagogical skills, and knowledge?

In summary, addressing these evaluation questions will provide an assessment of the KCM's Coaching Program activities in service of mathematics education in Kentucky. This includes an examination of coaches and coachees to assess their knowledge of mathematics, their attitudes toward mathematics and their attitudes toward the coaching program.

Evaluation Design

The evaluation employed a longitudinal pretest/posttest approach. The teachers participating in the coaching program completed a test measuring both pedagogical and mathematics content knowledge as well as a survey measuring teacher attitudes and beliefs about mathematics, all in a pretest/posttest format. They completed the first test and survey prior to the initial training; they repeated identical measures at the end of each academic year as the posttest(s). Coaches also completed an overall evaluation survey of the KCM's support functions and a sample of coaches participated in focus groups designed to validate findings from the surveys. Finally, since administration support is known to be central to the success of coaching programs, school administrators were surveyed to discern their perceptions of the program.

Program Funding

As part of the coaching program, school districts agreed to abide by the fiscal guidelines as outlined in the Teacher Professional Growth Fund (KRS 156.553). This is significant to the evaluation since no money was provided to cover the coach's salary. These monies needed to be provided directly from the school district(s). The fiscal guidelines related to the coaching program are outlined below.

- The teachers' professional development fund is hereby created to provide teachers with high-quality of professional development in content knowledge in mathematics, etc. Based on available funds, student achievement data, and teacher data, Kentucky Board of Education shall annually determine the priority for content emphasis based on the greatest needs.
- The fund may provide monies to teachers for:
 - Stipends for participation in and successful completion of:
 - Reimbursement for the purchase of materials required for professional development programs; and
 - Reimbursement for other approved professional development activities throughout the school year, including reimbursement for:
 - Travel to and from professional development workshops; and
 - Travel to and from other schools for the observations of, and consultation with, peer mentors.
 - The fund may be used to provide grants to local school districts to support staff participation in specific, statewide initiatives for the professional development of teachers and administrators in specific content areas identified by the State.
- The professional development programs approved by the Department of Education for which teachers may receive support from the fund shall:
 - Focus on improving the content knowledge of teachers;

- Provide instruction on teaching methods to effectively impart content knowledge to all students;
- Include intensive training institutes and workshops during the summer;
- Provide programs for the ongoing support of teacher participants throughout the year, which may include:
 - A peer coaching or mentoring, and assessment program; and
 - Planned activities, including:
 - Follow-up workshops; and
 - Support networks of teachers of the core disciplines using technologies, including but not limited to telephone, video, and on-line computer networks.
- Notwithstanding any provisions of the this section to the contrary, beginning June 1, 2006, through the 2009-2010 school year, priority for the use of funds from the teachers' professional development growth fund shall be used to train and support teams of teachers from all school levels to be trained as reading coaches and mentors or as mathematics coaches and mentors in statewide institutes referenced in KRS.840 and 158.842.
 - The design of the statewide institutes to train mathematics coaches and mentors shall be developed by the Committee for Mathematics Achievement established in KRS 158.842. The committee shall provide recommendations to the Kentucky Department of Education and the Kentucky Board of Education in the preparation of administrative regulations that may be promulgated by the board to implement the provisions of this subsection relating to mathematics.

Evaluation Procedures

Participants

A total of 100 coaches (teachers who provided coaching services), 829¹ coachees (teachers who received coaching services) from grades K-12, and 43 school or district administrators provided data specifically for this evaluation between June 2006 and June 2008. All participants listed above voluntarily participated in the various evaluation activities.

Instruments

Seven general data collection instruments were employed in this evaluation. Each is briefly described below.

Learning Mathematics for Teaching Test (LMT). Research has shown that teachers with higher levels of content knowledge are more likely to produce students who do well on achievement tests. The LMT (see <http://sitemaker.umich.edu/lmt/home>) was used to assess the mathematics content and pedagogical content knowledge of the coaches and coachees. The LMT was developed by researchers at the University of Michigan and is widely accepted as a valid measure of the level of knowledge needed to effectively teach mathematics to elementary and middle school students. This instrument was used to determine if the development programs used by the KCM to prepare mathematics coaches increased the teachers' mathematical knowledge in a significant way. The LMT is considered proprietary knowledge and researchers must be trained to administer, score and analyze these tests. Copies of the LMT test therefore cannot be included in this report.

The Mathematics Beliefs and Attitudes Survey (MBS). The MBS was developed by researchers at Northern Kentucky University. It presents items designed to assess *teacher efficacy* (the teachers' own perceptions of their ability to teach effectively), *beliefs about learning mathematics* (beliefs about how students best progress in their knowledge and skills in mathematics) and *beliefs about the nature of mathematics* (the teachers' beliefs about the fundamental characteristics of mathematics). All coaches and coachees completed this instrument. A sample can be viewed in Appendix A.

Overall Evaluation Survey (OES). The KCM administered training to its coaches at several points during the year. An Overall Evaluation Survey was developed by the UCESC team for participants to rate how training affected their ability to perform their duties as coaches in their school or district as well as to assess their perception of increased knowledge of Kentucky Core Content, mathematics in general, etc. The basic

¹ This is the number of distinctly different coach and coachee identification numbers attached to all data collected and may not represent the correct number of actual participants due to non-response or the respondent incorrectly entering the identification number.

structure of this instrument was essentially the same across applications with specific content questions adapted to the training. A sample can be viewed in Appendix A.

QUILT Survey (QS). This survey was developed to assess the training that coaches received in the fall of 2007, entitled *Questioning and Understanding to Improve Learning and Thinking*. It focuses on the perceived usefulness of the information presented as well as how the training benefits the participant in their role as coach. A sample can be viewed in Appendix A.

Coachee Evaluation Survey (CES). The purpose of this survey was to ascertain the benefits and challenges of the coaching program to mathematics teachers who are being coached. It also explores issues related to usage, implementation, and resources. A sample can be viewed in Appendix A.

Coach Administrators Survey (CAS). This survey was developed by UCESC to ascertain the degree to which administrators and principals were satisfied with the program, to gain information about program implementation, to discover the experienced benefits and challenges of the program, and to determine what additional resources were needed to increase the success of the program. A sample can be viewed in Appendix A.

Focus Groups with Coaches. Focus groups were conducted in either June 2007 or December 2007 to verify and expand upon responses we received from coaches related to their day-to-day activities and reactions to the program. The focus group guide was developed by UCESC and can be viewed in Appendix A.

Data Collection

Coaches, 2006-7 School Year. Training of Cohort 1 mathematics coaches began in summer 2006. Identical training sessions were held in two different locations, one occurred June 6 - June 16, 2006 and the other from July 17 - July 28, 2006. For the session held in June, the LMT and the MBS were administered in pencil and paper format by the KCM before training began on June 6. For the July session, the LMT and the MBS were again administered in pencil and paper format by the KCM before training began on July 17. The summer OES was administered as a general assessment on the last day of both sessions, June 16 and July 28 respectively. Data were entered and analyzed by UCESC.

Coaches' knowledge and attitudes were assessed again in spring 2007. During the week of April 16, 2007, coaches received an email invitation to complete the electronic version of the MBS. During the week of April 23, 2007, they received an email invitation to complete the electronic version of the LMT and the electronic version of the MBS. A final administration of the OES was given via email on May 10, 2007. Data were analyzed by UCESC.

Coachees, 2006-7 School Year. In Fall 2006, all coachees were surveyed at their home school buildings. These coachees completed the LMT in pencil and paper format to assess their content knowledge, and the MBS, also in pencil and paper format, to assess their attitudes towards teaching mathematics. Surveys were mailed in packets from the KCM to the coaches for distribution to the coachees. Surveys were returned to the KCM and forwarded to UCESC for data entry and analyses.

Follow-up surveys were administered at the end of the 2006-2007 school year. These surveys were administered electronically. For the final LMT, email invitations were sent to coachees during the week of April 23, 2007. For the final MBS, email invitations were sent to coachees via their coaches during the week of April 16, 2007. UCESC was responsible for downloading all data and for analyses.

Coaches, 2007-8 School Year. Training of Cohort 2 mathematics coaches began in summer 2007. Again two identical training sessions were offered in two different locations. One session was held from June 18 - June 26, 2007 at Eastern Kentucky University in Richmond, Kentucky and the other from July 23 - July 31, 2007 at Western Kentucky University in Bowling Green, Kentucky. For the session held in June, the LMT and the MBS were administered electronically, via email invitation, by the KCM before training began on June 18. For the July session, the LMT and the MBS were again administered electronically, via email invitation, by the KCM before training began on July 23. The summer OES was administered in pencil and paper format by the KCM on the last day of both sessions, June 26 and July 31 respectively. Data were entered and analyzed by UCESC.

Focus Groups were conducted with randomly selected coaches four times during the 2007-8 school year on the following dates: June 27, 2007 (Cohort 1 coaches, Eastern Kentucky University, Richmond, Kentucky); December 3, 2007 (Cohort 2 coaches, Eastern Kentucky University, Richmond, Kentucky); December 11, 2007 (Cohort 2 coaches, Western Kentucky University, Bowling Green, Kentucky); and December 12, 2007 (Cohort 1 coaches, Western Kentucky University, Bowling Green, Kentucky). Sessions were transcribed and reviewed by UCESC. The data collected are not discussed in the report but responses reinforce all findings. Transcripts were sent to the KCM and are available upon request, pending the approval of the KCM.

Spring 2008 surveys were administered at the end of the school year for both Cohort 1 and Cohort 2 and did not coincide with any training. All tests and surveys were administered electronically and included the LMT, the MBS and the OES. For the final LMT, MBS, and OES, email invitations were sent to coaches by the KCM on May 7, 2008. Fielding for all tests and surveys was closed on May 30, 2008. UCESC was responsible for downloading all data and for basic descriptive analyses.

Coachees, 2007-8 School Year. The LMT and the MBS were administered to Cohort 2 coachees in fall 2007. All tests and surveys were administered electronically. The test/survey internet links were sent by the KCM to a designated administrator within the school district. These administrators were responsible for sending the links to

coachees and requesting that they complete the test/survey. Fielding for all tests and surveys began September 24, 2007 and ended October 12, 2008. UCESC was responsible for downloading all data and for analyses.

Spring 2008 tests and surveys were administered at the end of the school year for both Cohort 1 and Cohort 2 coachees. All tests and surveys were administered electronically and included the LMT, MBS, and the CES. For the final LMT, MBS and OES, the test/survey internet links were sent to a designated administrator within the school district by the KCM. These administrators were responsible for sending the links to coachees and requesting that they complete the test/surveys. Fielding for all tests and surveys began May 7, 2008 and ended May 30, 2008. UCESC was responsible for downloading all data and for analyses.

Coach Administrators, 2007-8 School Year. The CAS was fielded by UCESC on May 7, 2008 and ended on July 6, 2008. An email was sent to all administrators and followed up with phone calls as needed; this group consisted mainly of administrators at the district level. This instrument was originally designed as a telephone survey. Because of scheduling difficulties and numerous requests from respondents it was also offered as an internet survey. Eleven administrators were interviewed via telephone and 32 elected to take the survey online. An analysis of results indicates that there were no significant differences in responses due to survey method.

KCCT Data 2005 – 2008. Baseline KCCT data was collected for participating schools/districts for future analyses. These data can be viewed in Appendix F.

Data Analysis

This evaluation employed a number of analysis strategies to summarize the data collected. The Math Beliefs Survey (MBS) and the Overall Evaluation Survey (OES) used mostly closed-ended items at multiple time points (pre-Institute, post-Institute, and/or follow-ups) to assess teachers' perceptions of the nature of mathematics, learning mathematics, self-efficacy regarding personal learning and abilities in mathematics, and program quality. Frequencies and mean scores were used to compare these beliefs across the two-year-long evaluation period. Some caution should be applied to the interpretation of some statistical tests because of the small number of respondents and the forms of data collected (mainly nominal and ordinal).

The Learning Mathematics for Teaching Tests (LMT) were collected at the beginning and end of the school year, and allowed the evaluation to gauge changes in coaches' and coachees' content and pedagogical knowledge. Efforts to compare scores across the year using *paired t-tests* were hampered by the low number of participants who completed the LMT. In some cases, the determination of significance for changes over time was omitted due to the small n-values.

The KCM Mathematics Coaching Program Results

One of the major activities of the Kentucky Center for Mathematics has been the creation and ongoing support of a statewide Mathematics Coaching Program. The Mathematics Coaching Program is designed to develop “coaches” who work with mathematics teachers both one-on-one and in small groups to help those teachers adopt instructional methods that will enhance student learning of mathematics. Coaches may work within single schools or within a school district. The implementation of the coaching programs was site-specific; that is, the selection of coaches and decisions about which teachers would be coached were left to school or district personnel.

Coaches and Coachees were both assessed longitudinally (see *Data Collection* above) regarding beliefs, attitudes and mathematics content knowledge. These results are reported below.

Coaches’ Beliefs, Attitudes and Content Knowledge²

The MBS was used to assess the coaches’ beliefs and attitudes about mathematics. Cohort 1 coaches were surveyed in June or July 2006 at their initial training (pretest) and again in spring 2007 and spring 2008 as posttest(s) if they continued with the project. Cohort 2 coaches were surveyed in summer 2007 at their initial training (pre-test) and again in Spring 2008 (posttest). Since only 16 Cohort 1 and 26 Cohort 2 coaches took the MBS at all three administrations, results are not broken out by grade level. This section will only report results from coaches that took the test at all possible administrations.

The LMT was employed at the same times as the MBS to assess participants’ content knowledge of mathematics. Because the LMT is grade-level-specific and has questions relating to content knowledge needed to teach at specific levels, results are reported separately for elementary school coaches and coaches at the middle or high school levels. This section will only report results from coaches that took the test at all possible administrations.

MBS Results for Coaches. Cohort 1 coaches showed no changes during the 2006-8 academic years regarding *teacher mathematics efficacy* or *learning mathematics*. Table 1 displays the one item regarding the *nature of mathematics* in which Cohort 1 coaches reported a significant change over the two years, this being “knowing step-by-step procedures is necessary to solve mathematical problems.” Cohort 2 coaches’ results were similar and can be seen in Table 2.

² A complete display of data for the coaching program is included in Appendix D.

Table 1: MBS Nature of Mathematics for Cohort 1 Coaches Who Took All Pre- and Posttests

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
Knowing step-by-step procedures is necessary to solve mathematical problems. **	31.3	3.00 (.816)	16	6.3	2.31 (.704)	16	6.3	2.38 (.619)	16

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table 2: MBS Nature of Mathematics for Cohort 2 Coaches Who Took All Pre- and Posttests

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
Those who are good in mathematics can solve a mathematics problem within a few minutes.**	26.9	2.73 (.919)	26	3.8	2.35 (.689)	26
Knowing step-by-step procedures is necessary to solve mathematical problems. **	26.9	2.92 (.935)	26	.0	2.23 (.652)	26

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

LMT Results for Elementary Coaches. The elementary coaches completed the LMT in a pretest/posttest manner. Figure 1 displays the change in content knowledge over both school years for Cohort 1 and Figure 2 displays the change in content knowledge over one school year for Cohort 2 coaches. Cohort 1 coaches showed a significant gain in content knowledge from summer 2006 to spring 2007 and relatively no gain from spring 2007 to spring 2008. The repeated measures analysis indicated that the overall positive trend for all three time points was significant but the sample size was small. Cohort 2 coaches LMT scores increased over the academic year, however the sample size is small, leading to low statistical power.

Figure 1: LMT for Elementary Coaches – Cohort 1

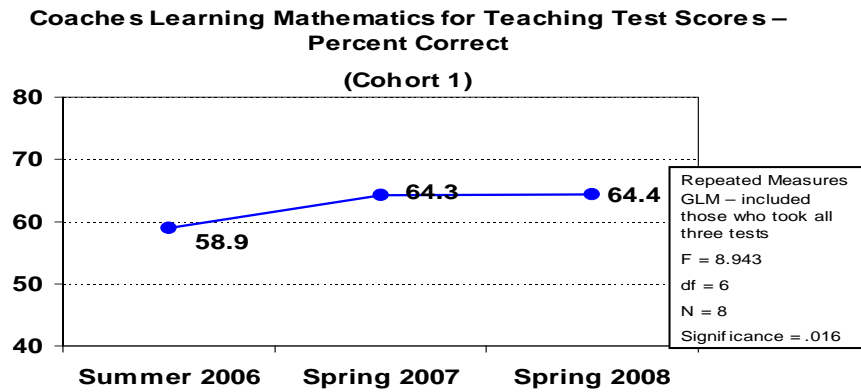
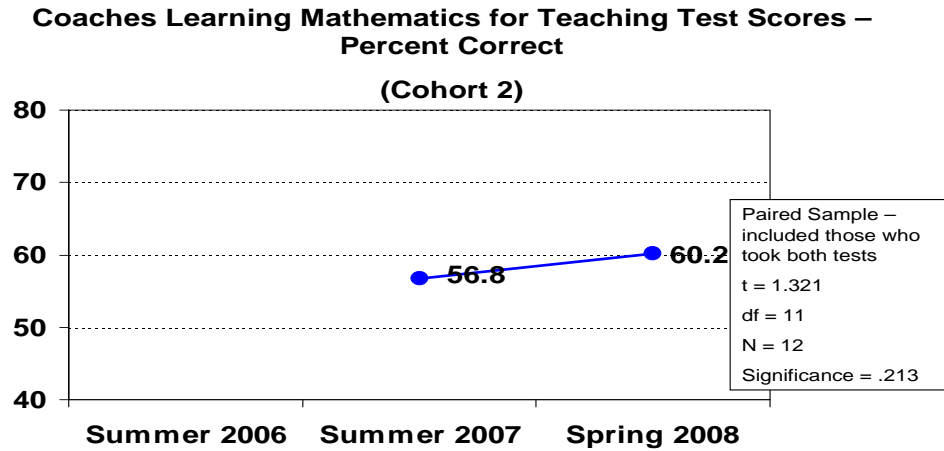


Figure 2: LMT for Elementary Coaches – Cohort 2

LMT Results for Middle & High School Coaches. The middle and high school coaches showed no statistically significant changes in content knowledge over the 2007-8 school year as measured by the LMT. The sample sizes were very small since the analysis was completed only on scores for coaches who took the LMT all three times (summer 2006, spring 2007, and summer 2008) for Cohort 1 and twice (summer 2007 and spring 2008) for Cohort 2. Specifically, although Cohort 1 coaches showed a significant gain in content knowledge from summer 2006 to spring 2007, they had a smaller gain from spring 2007 to spring 2008. The repeated measures analysis indicated that over all three test periods the positive trend was not significant. Cohort 2 coaches' LMT scores increased over the academic year. The small sample size led to low statistical power. The results are shown in Figures 3 and 4.

Figure 3: LMT for Middle or High School Coaches – Cohort 1

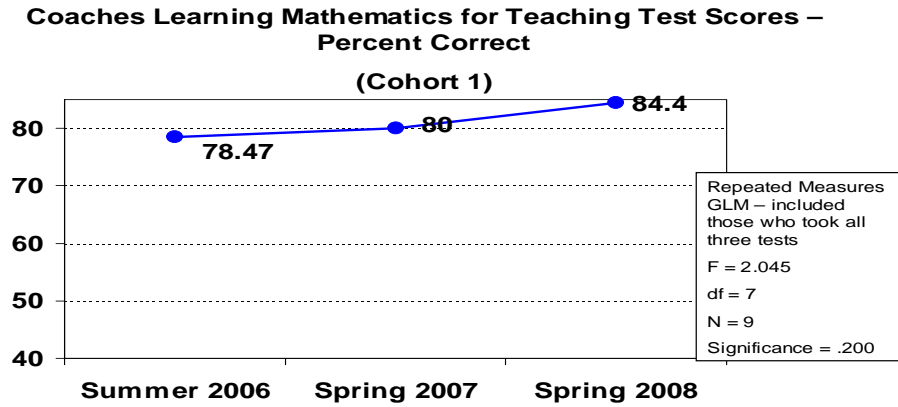
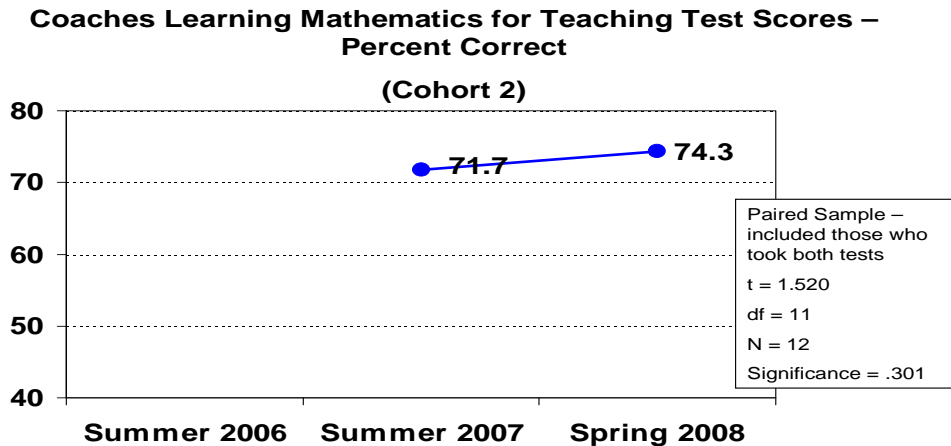


Figure 4: LMT for Middle or High School Coaches – Cohort 2



Coachees’ Beliefs, Attitudes and Content Knowledge³

Cohort 1 coachees also completed the MBS and the LMT as a part of a longitudinal design. The pretests were administered early in fall 2006 and the posttests were administered in spring 2007 and spring 2008. Cohort 2 coachees were administered the MBS and LMT fall 2007 and spring 2008. In this section results will be discussed for coachees that completed all possible surveys or tests. Full results are in

³ A complete display of data for the coaching program is included in Appendix D.

Appendix D. For consistency, results for the MBS will be discussed for all coachees by cohort and results for the LMT will be broken out by grade level.

MBS Results for Coachees. Cohort 1 coachees showed statistically significant change on several items on the MBS. There were two questions that were significantly different over the two academic years. These questions, “Doing mathematics consists mainly of using rules” and “Those who are good in mathematics can solve a mathematics problem within a few minutes,” indicate Cohort 1 coachees were opening to the belief that mathematics is flexible and can be learned by all. Results are shown in Table 3. Cohort 2 coachees showed no statistically significant differences from pretest to posttest on the MBS.

Table 3: MBS Nature of Mathematics for Cohort 1 Coachees Who Took All Pre- and Posttests

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
Doing mathematics consists mainly of using rules. **	40.4	3.04 (.907)	52	50.0	3.23 (.962)	52	25.0	2.73 (.910)	52
Those who are good in mathematics can solve a mathematics problem within a few minutes. **	13.5	2.52 (.804)	52	1.9	2.13 (.525)	52	7.7	2.17 (.678)	52

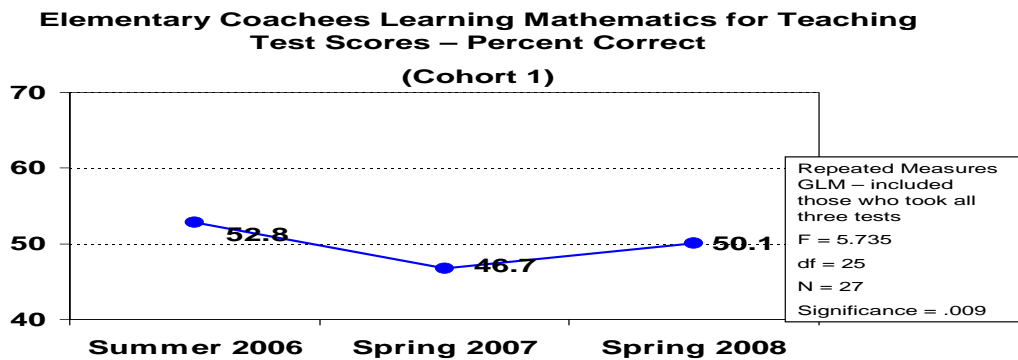
* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

LMT Results for Coachees. The coachees also completed the LMT in a pretest/posttest manner. These analyses used “percent correct” values. Cohort 1 coachees took two different versions of the LMT (Form A was the fall 2006, Form B was the spring 2007, and Form A was the spring 2008).⁴ Cohort 2 coachees took Form A at the beginning and end of the 2007-2008 school year.

Elementary, Middle, and High School Coachees. Figure 5 displays the change in content knowledge over two school years for Cohort 1 elementary coachees and Figure 6 shows the scores for Cohort 2 elementary coachees. Cohort 1 elementary coachees showed a statistically significant decrease in content knowledge from summer of 2006 to spring 2007 and a small gain from spring 2007 to spring 2008. The repeated measures analysis indicated that the overall trend was statistically significant even though it was substantively small. The Cohort 2 elementary coachees showed a statistically significant increase in their LMT scores over the academic year. Likewise, the LMT scores of middle and high school coachees show similar trends but with overall higher percent correct scores for each administration of the test all points. Results are in Figures 7 and 8.

Figure 5. LMT Scores for Elementary Coachees – Cohort 1



⁴ The LMT results showed no significant change in content knowledge for the *elementary school coachees* between fall 2006 and spring 2007. As noted, these analyses were complicated by the fact that the coachees took two different versions of the LMT. Data corrected to reflect the different forms of the test indicated no significant change from pretest to posttest ($t = -.56$, $N = 126$, $df = 125$, $p = .56$). Likewise, the LMT indicated no significant change in content knowledge for the middle and high school coachees between fall 2006 and spring 2007 ($t = -1.62$, $N = 91$, $df = 90$, $p = .11$).

Figure 6. LMT Scores for Elementary Coachees – Cohort 2

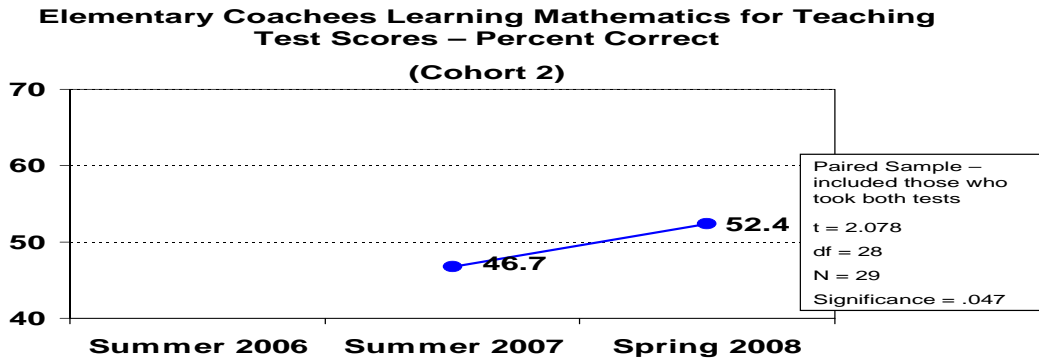


Figure 7. LMT Scores for Middle and High School Coachees – Cohort 1

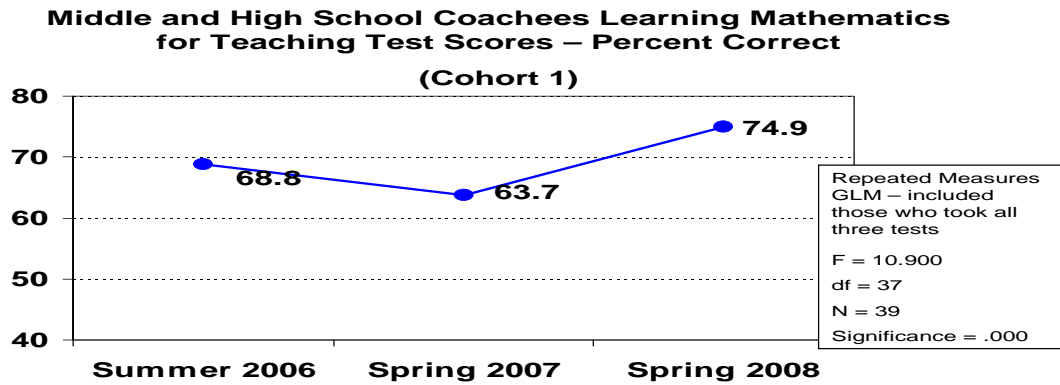
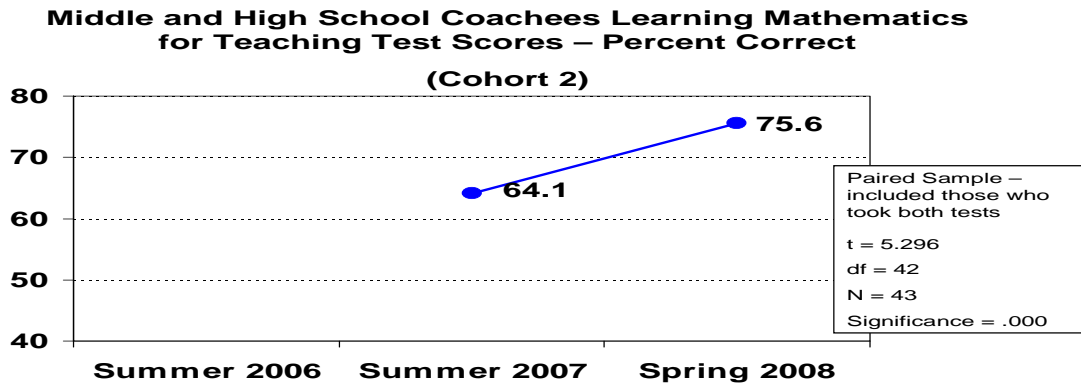


Figure 8. LMT Scores for Middle and High School Coachees – Cohort 2



Coaches' Overall Evaluation Survey

All coaches were asked to complete an annual Overall Evaluation Survey (OES). This survey was designed to assess the coaches' general perceptions of the effects of participating in the coaching program, the KCM resources and staff, and the support they received from their school or district. This survey was administered in summer 2006 and spring 2007. A slightly revised version was administered in Spring 2008. A complete report of all responses for every item is included in Appendix C. Analyses reported here were conducted on matched cases only. That is, data was used only from coaches who completed the OES at all relevant points in time. Initial examination of the response data suggested that there may be different response patterns for coaches at different levels (elementary school, middle school or high school). Thus the data report below presents the data from each level separately.

Coaches' Perceptions of the Program. The first cohort of coaches completed the OES both in fall 2006 and spring 2007. Table 4 below shows the response data for the first cohort of elementary school coaches. Their responses indicated that their feelings of being prepared to coach increased over time, as did their perceptions of their ability to use assessment data. Although the level of positive responses decreased slightly over time on fourteen of the seventeen items in this initial bank of questions, agreement is still very high, above 80 percent, in all but one question. Due to having a response from only 16, these declines represent the perceptions of 1 or 2 coach(es).

The responses for the first cohort of middle school coaches are displayed in Table 5. These coaches provided extremely positive responses that showed *increases* on eleven of seventeen items. *Furthermore*, five of the items that did not show increases *could not do so because they were already at the 100% level*. Thus they were already as positive as they could be.

The response data from the high school coaches is displayed in Table 6. Their responses became more positive over time on nine of the 17 items in this bank of questions (one other item remained at the 100% level).

Table 4: Coaches' Overall Evaluation Survey, 2006-7, Cohort 1, Elementary Schools

	Percent Strongly Agree or Agree	
	Summer 2006 (N=16)	Spring 2007 (N=16)
I have a greater understanding of how children learn mathematics.	100.0	82.4
This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	88.2
I have increased my mathematical content knowledge.	93.8	88.2
I have greater knowledge of the Kentucky Core Content.	76.5	76.5
I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	94.1	88.2
I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	82.4
I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	94.1	82.4
I am more proficient in using multiple methods for measuring student performance.	94.1	88.2
I am better able to use assessment data to refine my teaching practices.	82.4	88.2
I feel prepared to function as a mathematics coach for my school.	64.7	81.3
I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	82.4
I learned to develop action plans that will support my work as a coach in my school.	94.1	76.5
I learned to implement action plans that will support my work as a coach in my school.	88.2	82.4
I will be able to relay the teaching strategies presented in this professional development course to other teachers.	94.1	82.4
The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	94.1
The length of the professional development training was appropriate for the topics covered.	68.8	64.7
I was pleased with the overall quality of this professional development course.	100.0	88.2

Table 5: Coaches' Overall Evaluation Survey, 2006-7, Cohort 1, Middle Schools

	Percent Strongly Agree or Agree	
	Summer 2006 (N=7)	Spring 2007 (N=7)
I have a greater understanding of how children learn mathematics.	100.0	100.0
This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	100.0
I have increased my mathematical content knowledge.	85.7	100.0
I have greater knowledge of the Kentucky Core Content.	71.4	85.7
I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	85.7	100.0
I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	100.0
I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	85.7	100.0
I am more proficient in using multiple methods for measuring student performance.	100.0	100.0
I am better able to use assessment data to refine my teaching practices.	71.4	85.7
I feel prepared to function as a mathematics coach for my school.	85.7	85.7
I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	71.4	85.7
I learned to develop action plans that will support my work as a coach in my school.	71.4	85.7
I learned to implement action plans that will support my work as a coach in my school.	71.4	100.0
I will be able to relay the teaching strategies presented in this professional development course to other teachers.	85.7	100.0
The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	100.0
The length of the professional development training was appropriate for the topics covered.	57.1	100.0
I was pleased with the overall quality of this professional development course.	85.7	100.0

Table 6: Coaches' Overall Evaluation Survey, 2006-7, Cohort 1, High Schools

	Percent Strongly Agree or Agree	
	Summer 2006 (N=10)	Spring 2007 (N=10)
I have a greater understanding of how children learn mathematics.	90.0	66.7
This training has increased my knowledge of effective instructional strategies for teaching mathematics.	90.0	88.9
I have increased my mathematical content knowledge.	40.0	55.6
I have greater knowledge of the Kentucky Core Content.	40.0	66.7
I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	80.0	77.8
I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	90.0	88.9
I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	88.9
I am more proficient in using multiple methods for measuring student performance.	50.0	88.9
I am better able to use assessment data to refine my teaching practices.	30.0	88.9
I feel prepared to function as a mathematics coach for my school.	60.0	100.0
I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	60.0	88.9
I learned to develop action plans that will support my work as a coach in my school.	70.0	88.9
I learned to implement action plans that will support my work as a coach in my school.	60.0	88.9
I will be able to relay the teaching strategies presented in this professional development course to other teachers.	90.0	100.0
The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	100.0
The length of the professional development training was appropriate for the topics covered.	20.0	100.0
I was pleased with the overall quality of this professional development course.	80.0	88.9

It was possible to compare responses at three points in time (summer 2006, spring 2007 and spring 2008) for a subset of coaches at all levels. This response data is displayed in Appendix C. The small sample sizes require that any conclusions from this data be tentative. The data suggests that the coaches maintained generally positive perceptions over time.

The second cohort of coaches was asked to complete the OES in summer 2007 and spring 2008. Direct comparisons on all items is not possible because the OES was revised slightly in response to coach and staff feedback before the spring 2008 administration. Table 7 shows the response data for the second cohort of elementary school coaches. Unlike the data from the first cohort of elementary school coaches, the response data for this cohort declined on only two items.

Response data for the second cohort of middle school coaches is displayed in Appendix C. The small number of respondents makes the identification of trends problematic. Table 8 displays the response data for the second cohort of high school teachers.

Table 7: Coaches' Overall Evaluation Survey, 2007-8, Cohort 2, Elementary Schools

	Percent Strongly Agree or Agree	
	Summer 2007 (N=11)	Spring 2008 (N=11)
I have a greater understanding of how children learn mathematics.	100.0	90.9
This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	100.0
I have increased my mathematical content knowledge.	81.8	81.8
I have greater knowledge of the Kentucky Core Content.	80.0	90.9
I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	90.9	90.9
I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	100.0
I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	100.0
I am more proficient in using multiple methods for measuring student performance.	81.8	100.0
I am better able to use assessment data to refine my teaching practices.	72.7	100.0
I feel prepared to function as a mathematics coach for my school.	90.9	--
I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	--
I learned to develop action plans that will support my work as a coach in my school.	90.9	--
I learned to implement action plans that will support my work as a coach in my school.	90.9	--
I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	--
The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	81.8
The length of the professional development training was appropriate for the topics covered.	100.0	--
I was pleased with the overall quality of this professional development course.	100.0	81.8

Table 8: Coaches' Overall Evaluation Survey, 2007-8, Cohort 2, High Schools

	Percent Strongly Agree or Agree	
	Summer 2007 (N=8)	Spring 2008 (N=8)
I have a greater understanding of how children learn mathematics.	100.0	87.5
This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	87.5
I have increased my mathematical content knowledge.	50.0	37.5
I have greater knowledge of the Kentucky Core Content.	.0	62.5
I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	75.0	37.5
I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	87.5	100.0
I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	100.0
I am more proficient in using multiple methods for measuring student performance.	62.5	75.0
I am better able to use assessment data to refine my teaching practices.	25.0	75.0
I feel prepared to function as a mathematics coach for my school.	87.5	--
I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	--
I learned to develop action plans that will support my work as a coach in my school.	62.5	--
I learned to implement action plans that will support my work as a coach in my school.	50.0	--
I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	--
The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	100.0
The length of the professional development training was appropriate for the topics covered.	50.0	--
I was pleased with the overall quality of this professional development course.	87.5	100.0

Coaches' Perceptions of KCM. The OES also asked coaches a series of questions regarding KCM resources, KCM staff, the regional coordinators (RC's) and the online weekly CENTRA meetings. A comprehensive report of all responses is contained in appendix C. Their responses indicated that the coaches accessed the KCM website most frequently for the purposes of entering coaching log data, obtaining information about training, locating contact information

and accessing resources for teaching. They appeared less likely to access the website to visit the discussion forum (see appendix C).

The majority of the coaches (28/55; 51%) reported that they had contacted KCM staff members between zero and four times during the school year. However there was considerable variability in the number of contacts with KCM staff. Four coaches indicated that they had never contacted KCM staff and another seven indicated they had done so more than 20 times. Fully 98% of the respondents indicated that KCM staff had responded to them in a timely manner and 96% (51/53) indicated that the response from KCM had been helpful.

Coaches were also given the opportunity to provide general, open-ended comments about KCM staff. Of the 22 coaches providing comments, 16 provided clearly positive comments, 3 provided negative comments and 3 others provided essentially neutral comments. For example, typical positive comments were: “Outstanding, well qualified, highly respected.” “Good.” “Very professional, supportive.” “I feel the persons from KCM are very helpful...” One typical negative comment was “Not as good as I had hoped.” (See appendix C).

Coaches also reported on their contacts with their regional coordinators and their participation in CENTRA meetings. Overall, 56% (31/55) of the coaches indicated that they had contacted their RC’s between zero and four times. Six reported contacting them more than 20 times. Coaches indicated that the responses from the RC’s were timely (52/54 or 96% said yes). The majority of coaches (29/56 or 52%) were visited by their RC’s either one or two times and 88% (49/56) indicated these visits were at least somewhat helpful. Coaches were also asked to respond to an open-ended question “What was the primary benefit (if any) of having the RC visit you?”. A total of 54 comments were provided. Of those, 47 identified at least one benefit of the RC visits. Many mentioned the value of being able to discuss coaching issues with someone who was well informed. For example, one coach stated, “I loved having someone to discuss issues with that I could confide in and ask questions of.” Other typical comments included “They can help answer questions that I have and give advice on situations within the building.” and “We practiced Cognitive Coaching.” Negative comments included “I don’t feel the RC visit was useful.”

Fully 95% (52/55) of the coaches also reported that the CENTRA meetings were at least somewhat helpful to them. A total of 51 coaches also provided open-ended comments regarding the primary benefit of the CENTRA meetings. Of these comments, 45 clearly identified a benefit to the CENTRA meetings. Most cited the opportunity to confer with other coaches as a primary benefit. Coaches made comments such as “getting to talk to other coaches,” “sharing problems and solutions with other coaches,” and “discussion with other coaches.”

Finally, coaches were given the opportunity to make additional comments about their regional coordinators. A total of 32 coaches provided comments. Twenty-eight of these were clearly positive in nature. Coaches made comments such as “enjoyed and appreciated the support,” “very cooperative and easy to work with...,” “a great lady,” and “she was wonderful.”

Coaches’ Perceptions of Support for the Coaching Program. The OES for the coaches included a series of questions assessing the coaches’ perceptions of the adequacy of the

support given to them by their school or district. Appendix C displays the response frequencies for all coaches by school level. Generally, coaches in the first cohort felt the program was well supported, with the possible exception of some elementary coaches.

Table 9 displays the response data on the support items for the second cohort of elementary school coaches. In this cohort, there were generally positive perceptions that were maintained over time.

Table 9: Coaches' Perceptions of Support, Cohort 2, Elementary Schools

	Percent Strongly Agree or Agree	
	Fall 2007 (N=10)	Spring 2008 (N=10)
I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	90.0	81.8
I am given time to properly prepare for my role as a coach.	100.0	90.9
My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	100.0
I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	100.0
Other teachers in my school value the coaching program.	80.0	81.8
The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	70.0	72.7

Table 10 displays the data for the high school coaches in the second cohort. These coaches began with slightly less positive perceptions than those reported by the elementary school coaches but these tended to become more positive over time.

Table 10: Coaches' Perceptions of Support, Cohort 2, High Schools

	Percent Strongly Agree or Agree	
	Fall 2007 (N=8)	Spring 2008 (N=8)
I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	75.0	62.5
I am given time to properly prepare for my role as a coach.	62.5	62.5
My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	87.5
I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	87.5	87.5
Other teachers in my school value the coaching program.	37.5	50.0
The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	50.0	87.5

Coaches' Overall Perceptions of the Coaching Program. As noted, the OES for the coaches was modified prior to the spring 2008 administration in response to feedback from the coaches and the staff at KCM. This revised OES contained four items designed to assess the coaches' general perceptions of their developing coaching skills. Figures 9 and 10 display the response frequencies on these items for all elementary coaches and all middle school and high school coaches.

Figure 9: Elementary Coaches' Perceptions of Coaching

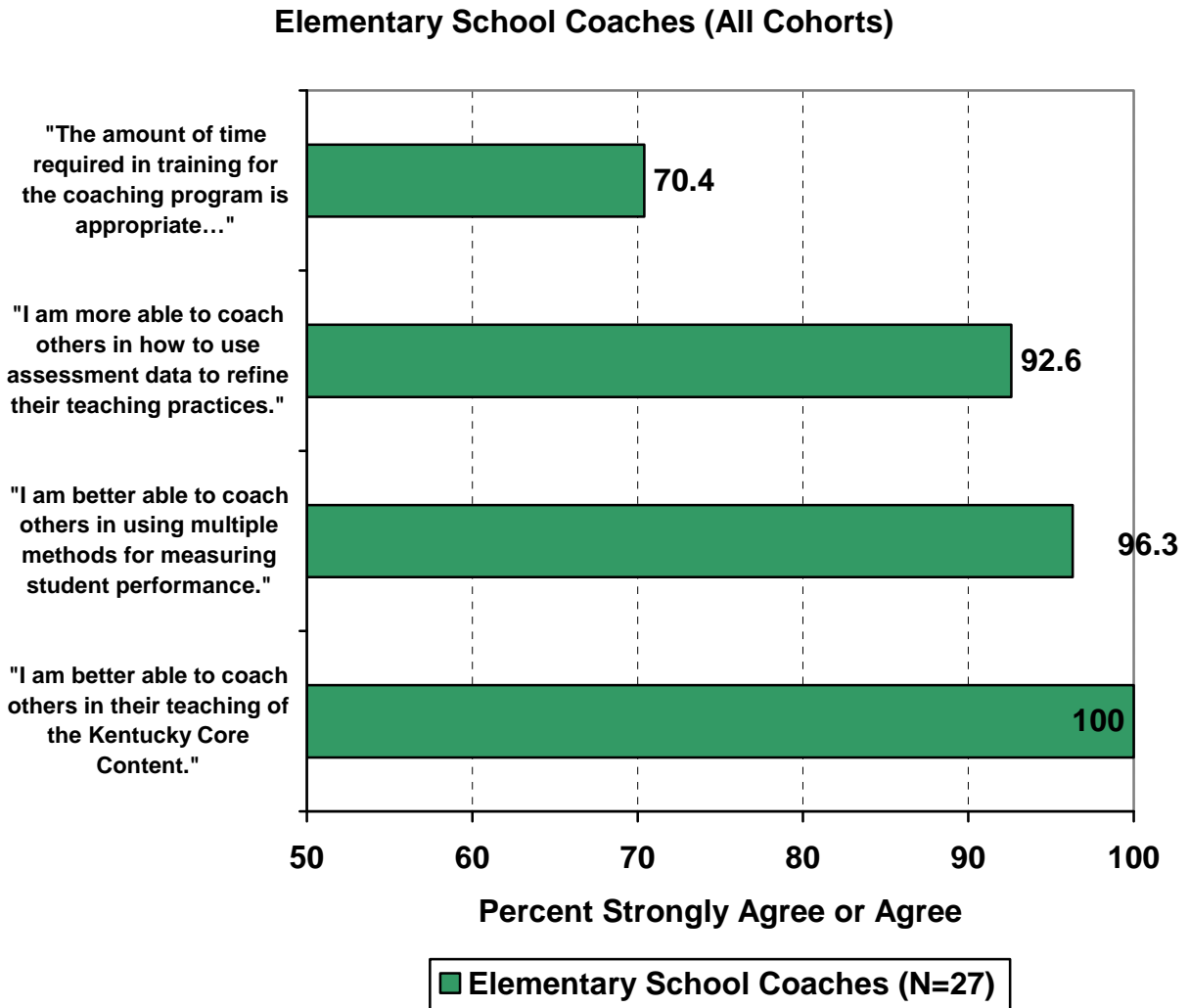
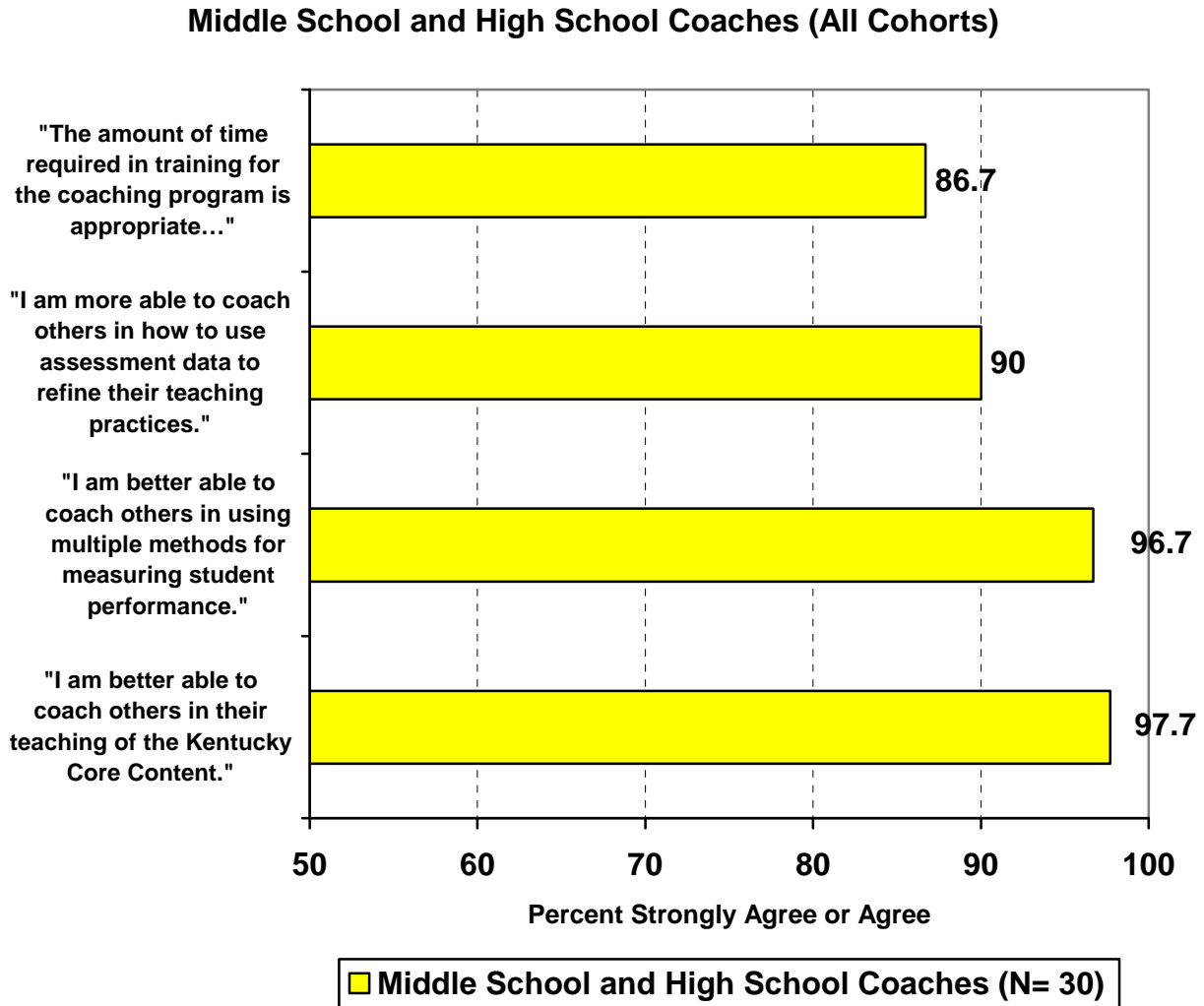


Figure 10: Middle School and High School Coaches' Perceptions of Coaching



QUILT Survey. This survey was developed to assess the training that coaches received in the fall of 2007, *Questioning and Understanding to Improve Learning and Thinking*. It focuses on the perceived usefulness of the information presented as well as how the training benefits the participant in their role as coach.

Tables 11 and 12 support the premise that the goals of the professional development were met. A solid majority of coaches agreed or strongly agreed that they have a greater ability to communicate with and question students effectively. They also agree that they can transfer these skills to the teachers they are working with in their schools.

Table 11: Coach QUILT Survey, Fall 2007
(Includes All Coaches in Cohort 1)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
I have a greater understanding of the relationship between questioning practices in the classroom and student learning outcomes.	4.4	2.2	6.7	66.7	20.0	45
I can effectively communicate the characteristics of "effective classroom questioning" to teachers in my school/district.	.0	2.2	13.3	66.7	17.8	45
I can identify teacher behaviors that limit effective classroom questioning.	.0	.0	2.3	63.6	34.1	44
I can communicate to other teachers how the asking of classroom questions affects a students' readiness to respond.	.0	.0	4.4	75.6	20.0	45
I am able to effectively use the verbal techniques for eliciting student responses to questions that were presented in this program.	2.3	.0	20.5	61.4	15.9	44
I have greater understanding of how my reaction to student responses affects their responding patterns.	6.7	.0	11.1	57.8	24.4	45
I can accurately assess my own personal questioning practices.	.0	.0	6.7	68.9	24.4	45

Table 12: Coach QUILT Survey, Fall 2007
(Includes All Coaches in Cohort 1)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
I am able to effectively use the nonverbal techniques for eliciting student responses to questions that were presented in this program.	2.2	.0	35.6	48.9	13.3	45
I can accurately assess the personal questioning practices of other teachers.	.0	.0	8.9	64.4	26.7	45
I feel better prepared to function as a mathematics coach for my school.	4.4	.0	13.3	48.9	33.3	45
I will be able to relay the strategies presented in this professional development program to other teachers.	.0	4.4	11.1	57.8	26.7	45
I have better understanding of what constitutes the effective questioning of students in a classroom setting.	4.4	2.2	6.7	66.7	20.0	45
I have greater knowledge of effective questioning techniques and practices that encourage student responses.	4.4	2.2	6.7	64.4	22.2	45
I have the knowledge to teach students how to ask questions effectively.	.0	2.2	15.6	60.0	22.2	45
I was pleased with the overall quality of the QUILT professional development program.	4.4	4.4	6.7	46.7	37.8	45

Coachee Evaluation Survey. This survey focuses on the benefits and challenges of the coaching program as seen through the eyes of the coachees. Appendix D shows all of the data from the Coachees' Evaluation Survey as well as all open-end comments.

Cohort 1 coachees were more likely overall to state that they had meetings with their respective coaches at least once a week, especially at the high school level. Here 67% stated that they met with their coach at least once a week, with 50% meeting two or more times per week (Table 12).

Table 12: Coachees Evaluation Survey, by Cohort and Grade Level, Year 2007-8 (Spring 2008)

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Percent	Count	Percent	Count	Percent	Count
Cohort 1						
I did not meet with my coach	0.0	0	4.8	1	0.0	0
Less than once a month	21.4	9	23.8	5	5.6	2
At least once a month	28.6	12	19.0	4	13.9	5
At least once every two weeks	21.4	9	4.8	1	13.9	5
Once a week	14.3	6	38.1	8	16.7	6
Two or more times a week	14.3	6	9.5	2	50.0	18
Total		42		21		36
Cohort 2						
I did not meet with my coach	0.0	0	0.0	0	2.3	1
Less than once a month	17.6	12	11.8	2	23.3	10
At least once a month	30.9	21	23.5	4	20.9	9
At least once every two weeks	23.5	16	29.4	5	20.9	9
Once a week	13.2	9	5.9	1	14.0	6
Two or more times a week	14.7	10	29.4	5	18.6	8
Total		68		17		43

As expected, Table 13 shows that those who perceived meetings with their coach as being helpful met with their coach more often than those who did not. Over 90% of coachees who met with a coach on a particular topic found it to be at least somewhat helpful. Table 14 indicates that the least discussed topic at all grade levels was classroom management. Collectively, coachees met most often about instructional strategies and least often about classroom management issues (Table 13). However, when the data is examined by grade level, some variations are apparent. Elementary coachees focused on instructional strategies and mathematics content issues. Middle school coaches split evenly between instructional strategies, assessment strategies, and mathematical content and high school coachees discussed instructional strategies and assessment strategies most often (Table 14).

Table 13: Coachees Evaluation Survey, Cohort 1-2, All Grade Levels, (Spring 2008)

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	77
Occasionally	7.5	31.5	61.0	.0	146
Frequently	.0	13.3	86.7	.0	30
Instructional Strategies					
Never	.0	.0	.0	100.0	5
Occasionally	5.4	46.8	47.7	.0	111
Frequently	.0	9.6	90.4	.0	136
Assessment Strategies					
Never	.0	.0	.0	100.0	23
Occasionally	3.3	40.5	56.2	.0	121
Frequently	.9	8.4	90.7	.0	107
Mathematics Content					
Never	.0	.0	.0	100.0	15
Occasionally	6.7	40.0	53.3	.0	120
Frequently	.0	8.6	91.4	.0	116

Table 14: How often did you talk to your coach about the following topics? Cohort 1-2 by Grade, Coachees Evaluation Survey (Spring 2008)

	Never %	Occasionally %	Frequently %	Count
Elementary School				
Classroom management	31.8	60.9	7.3	110
Instructional strategies	2.7	40.9	56.4	110
Assessment Strategies	9.1	53.6	37.3	110
Mathematical content	7.3	42.7	50.0	110
Middle School				
Classroom management	21.6	56.8	21.6	37
Instructional strategies	0.0	51.4	48.6	37
Assessment Strategies	8.3	44.4	47.2	36
Mathematical content	8.1	43.2	48.6	37
High School				
Classroom management	33.3	53.8	12.8	78
Instructional strategies	1.3	46.2	52.6	78
Assessment Strategies	9.0	41.0	50.0	78
Mathematical content	2.6	61.5	35.9	78

Overall, approximately 71% of coachees rated their conversations as helpful, 26% stated they were somewhat helpful, and 3% found them to be not helpful. Table 15, below, shows the specific breakdown by grade level and topic.

Table 15: How helpful were these conversations around the following topics? Cohort 1-2 by Grade, Coachees Evaluation Survey (Spring 2008)

	Not Helpful %	Somewhat Helpful %	Helpful %	Count
Elementary School				
Classroom management	4.1	33.8	62.2	74
Instructional strategies	0.9	25.5	73.6	106
Assessment Strategies	2.0	28.6	69.4	98
Mathematical content	0.0	23.8	76.2	101
Middle School				
Classroom management	11.1	22.2	66.7	27
Instructional strategies	0.0	34.3	65.7	35
Assessment Strategies	3.2	19.4	77.4	31
Mathematical content	3.2	32.3	64.5	31
High School				
Classroom management	6.1	18.4	75.5	49
Instructional strategies	2.7	24.7	72.6	73
Assessment Strategies	1.5	25.0	73.5	68
Mathematical content	4.2	25.0	70.8	72

Tables 16 and 17 show the various types of information, materials and resources provided by coaches to coachees. A large percentage of elementary school coachees reported receiving resources, materials and information about the following topics: understanding how students learn mathematics (90%), effective instructional strategies for teaching mathematics (86%), analyzing student work (81%), and identifying best practices for classroom instruction (90%). High school coachees reported coaches giving information related to Kentucky Core Content (80%) and effective instructional strategies for teaching mathematics (89%). Overall, both cohorts of coachees reported that coaches disseminated to them, least often, information, materials, and resources related to mathematical content knowledge.

Table 16: My mathematics coach has provided information, resources, or materials that ... Cohort 1 by grade level, Coachees Evaluation Survey (Spring 2008)

	Elementary School		Middle School		High School	
	Strongly Agree or Agree %	Count	Strongly Agree or Agree %	Count	Strongly Agree or Agree %	Count
Increase my understanding of how students learn mathematics.	90.5	42	60.0	20	75.0	36
Increase my knowledge of effective instructional strategies for teaching mathematics.	85.7	42	65.0	20	88.9	36
Increase my mathematical content knowledge.	78.0	41	50.0	20	72.2	36
Increase my knowledge of the Kentucky Core Content.	75.6	41	73.7	19	80.5	36
Increase my understanding of how students learn mathematics.	75.0	68	47.0	17	66.6	42
Increase my knowledge of effective instructional strategies for teaching mathematics.	73.2	67	58.8	17	73.8	42
Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	81.0	42	60.0	20	79.4	34
Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	90.3	41	78.9	19	77.8	36

Table 17: My mathematics coach has provided information, resources, or materials that ... Cohort 2 by grade level, Coachees Evaluation Survey (Spring 2008)

	Elementary School		Middle School		High School	
	Strongly Agree or Agree %	Count	Strongly Agree or Agree %	Count	Strongly Agree or Agree %	Count
Increase my mathematical content knowledge.	58.8	68	47.0	17	42.9	42
Increase my knowledge of the Kentucky Core Content.	54.4	68	58.8	17	60.0	40
Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	59.7	67	58.8	17	54.8	42
Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	68.7	67	58.8	17	69.1	42

The techniques used most often by coaches were planning and reflective discussions; co-teaching was used least often (Table 18), with co-teaching and modeling being rated as the most helpful. Table 19-20 displays detailed breakouts by technique and grade level.

Table 18: Coachees Evaluation Survey, Cohort 1-2, All Grade Levels, (Spring 2008)

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	83
Occasionally	.8	29.5	69.8	.0	129
Frequently	.0	4.8	95.2	.0	42
Modeling					
Never	.0	.0	.0	100.0	60
Occasionally	1.5	38.2	60.3	.0	131
Frequently	1.6	1.6	96.8	.0	63
Planning Discussions					
Never	.0	.0	.0	100.0	29
Occasionally	4.8	50.0	45.2	.0	124
Frequently	.0	6.5	93.5	.0	93
Data Collection					
Never	.0	.0	.0	100.0	52
Occasionally	4.5	38.8	56.7	.0	134
Frequently	1.6	12.5	85.9	.0	64
Reflective Discussions					
Never	.0	.0	.0	100.0	34
Occasionally	5.0	49.2	45.8	.0	120
Frequently	.0	6.4	93.6	.0	94

Table 19: Did your coach use the following techniques? Cohort 1-2 by Grade, Coachees Evaluation Survey, (Spring 2008)

	Never %	Occasionally %	Frequently %	Count
Elementary School				
Co-teaching	27.5	47.7	24.8	109
Modeling	18.2	50.0	31.8	110
Planning discussions	8.4	52.3	39.3	107
Data collection	13.6	59.1	27.3	110
Reflective discussions	11.0	51.4	37.6	109
Middle School				
Co-teaching	48.6	48.6	2.7	37
Modeling	32.4	54.1	13.5	37
Planning discussions	8.1	48.6	43.2	37
Data collection	25.0	52.8	22.2	36
Reflective discussions	16.2	43.2	40.5	37
High School				
Co-teaching	34.6	53.8	11.5	78
Modeling	24.4	57.7	17.9	78
Planning discussions	11.5	55.1	33.3	78
Data collection	22.1	51.9	26.0	77
Reflective discussions	12.8	53.8	33.3	78

Table 20: Were the following techniques helpful? Cohort 1-2 by Grade, Coachees Evaluation Survey, (Spring 2008)

	Not Helpful %	Somewhat Helpful %	Helpful %	Count
Elementary School				
Co-teaching	0.0	20.8	79.2	77
Modeling	2.3	18.6	79.1	86
Planning discussions	3.3	32.6	64.1	92
Data collection	3.3	27.5	69.2	91
Reflective discussions	2.2	31.5	66.3	92
Middle School				
Co-teaching	0.0	47.1	52.9	17
Modeling	4.2	33.3	62.5	24
Planning discussions	0.0	38.7	61.3	31
Data collection	4.2	41.7	54.2	24
Reflective discussions	0.0	28.6	71.4	28
High School				
Co-teaching	2.0	18.0	80.0	50
Modeling	0.0	31.0	69.0	58
Planning discussions	4.5	26.9	68.7	67
Data collection	1.7	32.2	66.1	59
Reflective discussions	3.0	31.8	65.2	66

Cohort 1 coachees agreed or strongly agreed more often than Cohort 2 coachees that teachers in their building were open to working with a mathematics coach. Overall, high school level coachees appeared to be the most open to working with a mathematics coach (Table 21).

Table 21: Teachers in my building have been open to working with the mathematics coach. Coachees Evaluation Survey, Cohort 1-2, by Grade Level (Spring 2008)

	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Cohort 1						
Strongly Disagree	0	0.0	0	0.0	1	2.9
Disagree	0	0.0	2	10.0	1	2.9
Neutral	2	4.9	2	10.0	3	8.6
Agree	18	43.9	12	60.0	15	42.9
Strongly Agree	21	51.2	4	20.0	15	42.9
Total	41		20		35	
Cohort 2						
Strongly Disagree	4	6.0	0	0.0	1	2.3
Disagree	7	10.4	1	5.9	1	2.3
Neutral	13	19.4	5	29.4	10	23.3
Agree	31	46.3	7	41.2	22	51.2
Strongly Agree	12	17.9	4	23.5	9	20.9
Total	67		17		43	

Table 22 shows that overall over 70% of coachees either agreed or strongly agreed that the coach received appropriate support from the school/district’s administration. Cohort 2’s high school coachees perceived the lowest level of support, at 67%, while Cohort 1’s elementary coachees perceived the highest level of administrative support, with 88% agreeing or strongly agreeing.

Table 22: My mathematics coach receives appropriate administrative support. Coachees Evaluation Survey, Cohort 1-2, By Grade Level (Spring 2008)

	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Cohort 1						
Strongly Disagree	0	0.0	1	5.0	0	0.0
Disagree	0	0.0	2	10.0	1	2.9
Neutral	5	11.9	3	15.0	6	17.1
Agree	13	31.0	9	45.0	17	48.6
Strongly Agree	24	57.1	5	25.0	11	31.4
Total	42		20		35	
Cohort 2						
Strongly Disagree	4	5.9	0	0.0	1	2.3
Disagree	2	2.9	0	0.0	1	2.3
Neutral	12	17.6	4	23.5	12	27.9
Agree	28	41.2	7	41.2	18	41.9
Strongly Agree	22	32.4	6	35.3	11	25.6
Total	68		17		43	

Coach Administrator/Principal Survey (CAS)

This survey was developed by UCESC to ascertain not only the degree to which administrators and principals were satisfied with the program but also to discover the benefits and challenges of the program experienced by the principals and administrators, and what additional resources were needed to increase the success of the program. Forty-three administrators with either a Cohort 1 or Cohort 2 coach in their school building or district responded to the survey. Results imply that administrators perceive the Coaching Program as being beneficial to their school/district's mathematics programs, with the main challenges being funding and the loss of half a teacher full time equivalency (FTE) for mathematics instruction.

Coach Administrator/Principals' Perceptions of Effectiveness of Program. In general, coaches' administrators overwhelmingly attributed improvements in teaching practices within their schools to the Coaching Program (Table 23). There were two administrators that strongly disagreed with all questions.

Table 23: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. Because of my schools involvement in the Mathematics Coaching program... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
Teachers in this school or district have a greater understanding of how students learn mathematics.	4.7	0.0	9.3	53.5	32.6	43
Teachers in this school or district have increased their knowledge of effective instructional strategies for teaching mathematics.	4.7	0.0	4.7	53.5	37.2	43
Teachers in this school or district have increased their mathematical content knowledge.	4.7	4.7	14.0	53.5	23.3	43
Teachers in this school or district have greater knowledge of the Kentucky Core Content.	4.7	2.3	14.0	48.8	30.2	43
Teachers in this school or district can better analyze student work for the purpose of identifying the mathematical skills the work represents.	4.7	0.0	14.0	55.8	25.6	43
Teachers in this school or district are better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	4.7	0.0	7.0	62.8	25.6	43

Administrators reported that because of their school's involvement, teachers had a greater understanding of how students learn mathematics (86.1%), increased their knowledge of effective instructional strategies (90.7%), and were better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students (88.4 %).

Table 24 shows that over 90% of administrators reported the coaching program as encouraging learning that is in line with Kentucky Core Content (90.7%) and actively involved children in doing mathematics (93.7%). More than 80% of administrators reported that the program helps students develop a strong conceptual framework from which to build future mathematics skills (88.1%) and promotes student learning by identifying where they need additional instruction and support (86.1%). Eighty-one percent (81%) of administrators agreed or strongly agreed with the statement that they were "pleased with the overall quality of the Mathematics Coaching program." The lowest level of agreement, at 74.5%, was for the statement, "Other teachers in this district/school value the Mathematics Coaching program."

Appendix E shows all the verbatim comments related to how the other mathematics teachers responded to having a math coach in their school/district.

Table 24: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. The Mathematics Coaching Program, as implemented in my school or district... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
Encourages learning that is in line with Kentucky Core Content.	4.7	.0	4.7	37.2	53.5	43
Promotes having children actively involved in doing mathematics.	4.7	.0	2.3	32.6	60.5	43
Helps students develop a strong conceptual framework from which to build future mathematics skills.	4.8	.0	7.1	35.7	52.4	42
Has improved the quality of mathematics teaching in my school/district.	4.7	4.7	11.6	30.2	48.8	43
Promotes student learning by identifying where they need additional instruction and support.	4.7	4.7	4.7	44.2	41.9	43
I am pleased with the overall quality of the Math Coaching program.	2.4	4.8	11.9	28.6	52.4	42
Other teachers in this district/school value the Math Coaching program.	7.0	2.3	16.3	41.9	32.6	43

As shown in Table 25, the Coaching Program appears to effectively support their school's mathematics curriculum but a notable minority disagreed that implementation of the program in their school or district was easy. It should also be noted that those who agreed that it was easy to implement were less strong in this belief.

Table 25: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. The activities of the Mathematics Coach... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
9. Effectively support my school's/district's mathematics curriculum.	4.7	2.3	4.7	32.6	55.8	43
10. Are easy to implement in my school/district.	7.0	4.7	9.3	41.9	37.2	43

Specific benefits from the Coaching Program can be seen at every level (Comments, Appendix E). Administrators reported an improved understanding of the curriculum and increased mathematics capacity in the building, which has led to improved student achievement. They perceived that teachers are teaching better and have a better understanding of best practices in mathematics. For example, one administrator stated, “Our teachers...have increased not only their understanding of mathematics, but how to effectively share that with their students.” Another said, “Everyone has benefited. The teachers have access to a coach that shares strategies that they in turn use in their classrooms...” A few comments, however, indicated that some administrators associated no benefits with the program. For example, one simply stated, “(There was) little benefit gained.”

The major challenges as reported by administrators were scheduling and time constraints, the half-position loss of a mathematics teacher in the building and, for some, a basic lack of understanding of what a coach does on a day-to-day basis. Appendix E reports all challenges listed by administrators that were attributed to their involvement in the Coaching Program.

Funding, or a lack there of, appears to be the overwhelming reason that schools and districts are deciding to not participate in the coaching program during the 2008-9 school year. Administrators from fifteen of the 21 schools/districts where coaches stated they were not continuing with the coaching program cited a lack of funding, tight budgets, or lack of resources such as staffing as the major reason. Appendix E shows all the verbatim responses administrators gave for deciding to discontinue their coaching program.

In summary, administrators perceived that the coaching program has benefited their school or district’s teachers and students alike, but they lack the funding and resources necessary to continue their participation.

Implementation of Coaching Program

Logistical Implementation. The very challenging task of assessing implementation has remained a high priority for ESC and the KCM and improved procedures are evolving steadily. This year, basic aspects of program implementation were gleaned from information gathered via questions from the *Coachee Evaluation Survey (CES)*, the *Coach Administrators Survey (CAS)*, and *Focus Groups with Coaches*.⁵

Coachees (those teachers being coached) and school/district administrators were in agreement on activities that coaches provided to their schools; these include assisting in the location of resources, being a resource in their schools, co-teaching, modeling, assisting with lesson plans, offering professional development, information on assessment tools, and the use of data in the classroom. Although there is solid evidence that all coaches undertook some or all of these activities, it is unknown the amount of time individual coaches spent on these activities. It is clear that the duties of coaches in the program vary by individual coach.

A few of the coachees and administrators also noted areas for improvement. Some perceived that coaches were assigned too many tasks/duties outside coaching, lacked support from other teachers in the building, or lacked administrative support. At least two coaches spent less than half of their time coaching, which was an expectation for funding. One coachee mentioned that their coach was also in charge of performance reviews.

ESC, the KCM, and others are working during year three to get a more clear idea of the duties, roles, and potential conflicts that coaches experience in carrying out their duties.

Fidelity of Implementation. Fidelity of implementation of Cognitive CoachingSM, specifically detailing the coach-coachee conversations, is not well documented at this time, but is a priority for year three. The KCM, ESC, and others are working collaboratively to develop instruments and measures that will assist in documenting program implementation.

⁵ A description of these surveys is located on page 6 and the instruments can be viewed in Appendix A.

Appendices

Appendix A: Data Collection Instruments

Mathematics Beliefs Survey

Kentucky Center for Mathematics

Thank you for taking the time to complete this survey. You are being asked to complete this survey to measure teacher attitudes towards mathematics, teaching mathematics, and learning mathematics. This survey may or may not benefit you directly, but it will assist the Kentucky Center for Mathematics in gauging teacher attitudes towards mathematics within the State of Kentucky. There are no anticipated risks associated with your participation in this survey. Participants can withdraw from the survey at any time.

All responses to the survey will remain confidential. Data will be analyzed in aggregate and no individual responses will be reported. By completing this survey, you indicate your consent to participate in the study. This project has been approved by the Northern Kentucky University's Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants.

Confidential Identifier: Because we will be collecting information over the next year through multiple surveys and observations, we need an identification number which will allow researchers to match responses to the same individual. Therefore we are asking that you provide the following information. All "identifiers" will be stripped from the final database.

The last 4-digits of your Social Security number

Month of your birth (e.g., January = 01, March = 03, October = 10)

Day of your birth (1st = 01, 15th = 15, 23rd = 23)

Directions: Please read the following responses and choose which response most accurately describes your opinion. Please fill in the circles completely.

Examples:

Wrong

Wrong

Wrong

Correct

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
1. Often in mathematics, I do not understand the concept behind a problem.	○	○	○	○	○
2. I am able to remember most of the mathematics I learn in a course after the course is over.	○	○	○	○	○
3. I get frustrated if I don't understand what I am studying in mathematics.	○	○	○	○	○
4. I like doing mathematics.	○	○	○	○	○
5. I am very interested in mathematics.	○	○	○	○	○
6. I am able to learn mathematics well.	○	○	○	○	○
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	○	○	○	○	○
8. I am good at doing mathematics.	○	○	○	○	○
9. I am able to successfully solve most mathematical problems with which I am confronted.	○	○	○	○	○
10. People learn mathematics	○	○	○	○	○

by listening to lecture.					
11. Learning mathematics mainly involves memorizing procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. In order to learn mathematics you need to learn a different method for each new type of problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. People learn mathematics by working together in cooperative groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I try to understand the reasoning behind the procedures I use in mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
15. I know I understand mathematics when I can apply mathematics to a new situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. People learn mathematics by doing hands on activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I know I understand mathematics when I get a good grade on an exam.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Anyone can learn mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I know I understand mathematics when I can explain the mathematics to someone else.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Making mistakes is part of learning mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. To understand mathematics, students must solve many problems following examples provided.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Doing mathematics consists mainly of using rules.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Getting the right answer is the most important part of mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Solving mathematics problems frequently involves exploration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Mathematics is an uncreative subject.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. The most important part of	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

mathematics is
computation.

- | | | | | | |
|---|---|---|---|---|---|
| 31. There are several ways to find the correct solution to a mathematics problem. | O | O | O | O | O |
| 32. Those who are good in mathematics can solve a mathematics problem within a few minutes. | O | O | O | O | O |
| 33. Knowing step-by-step procedures is necessary to solve mathematical problems. | O | O | O | O | O |
-

Evaluation of Mathematics Coaching Training Session, Fall 2007
Kentucky Center for Mathematics

Thank you for taking the time to complete this survey. You are being asked to complete this survey to evaluate the effectiveness of the professional development training session that you have just completed. When answering these questions please only think about the professional development session that you have just completed. This survey may or may not benefit you directly but your input could assist the Kentucky Center for Mathematics in improving future professional development sessions for teachers within the State of Kentucky. There are no anticipated risks associated with your participation in this survey. Participants can withdraw from the survey at any time.

All responses to the survey will remain confidential. Data will be analyzed in aggregate and no individual responses will be reported. By completing this survey, you indicate your consent to participate in the study. This project has been approved by the Northern Kentucky University's Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants.

Confidential Identifier: Because we will be collecting information over the next year through multiple surveys and observations, we need an identification number which will allow researchers to match responses to the same individual. Therefore we are asking that you provide the following information. All "identifiers" will be stripped from the final database.

The last 4-digits of your Social Security number

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Month of your birth (e.g., January = 01, March = 03, October = 10)

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Day of your birth (1st = 01, 15th = 15, 23rd = 23)

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Directions: Please read the following responses and choose which response most accurately describes your opinion. Please fill in the circles completely. Again, Please only consider the professional development program that you have just completed.

Examples: Wrong * Wrong ○ Wrong ⊕ Correct

With this training...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have a greater understanding of how children learn mathematics.	○	○	○	○	○
2. This training has increased my knowledge of effective instructional strategies for teaching	○	○	○	○	○

mathematics.					
With this Training...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
3. I have increased my mathematical content knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I have greater knowledge of the Kentucky Core Content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am better able to <u>identify</u> best practices for classroom instruction that support reasoning and problem solving skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I am better able to coach others on the <u>use</u> of best practices for classroom instruction that support reasoning & problem solving skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I am more proficient in using multiple methods for measuring student performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I am better able to use assessment data to refine my teaching practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I feel prepared to function as a mathematics coach for my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I learned to <u>develop</u> action plans that will support my work as a coach in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I learned to <u>implement</u> action plans that will support my work as a coach in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	○	○	○	○	○
16. The length of the professional development training was appropriate for the topics covered.	○	○	○	○	○
17. I was pleased with the overall quality of this professional development series.	○	○	○	○	○

18. The MOST effective part of this professional development series was... (Be specific and if possible list vendor, activity, section, topic, etc.)

19. The part of this professional development series that was LEAST effective was... (Be specific and if possible list vendor, activity, section, topic, etc.)

**Kentucky Center for Mathematics: Mathematics Coaching Program
Final Coaches' Survey May 2008**

Thank you for taking the time to complete this survey. You are being asked to complete this survey to evaluate the effectiveness of the Mathematics Coaching Program that you have participated in during the 2007-2008 school year. This survey may or may not benefit you directly but your input could assist the Kentucky Center for Mathematics in improving future professional development programs for mathematics coaches within the State of Kentucky. There are no anticipated risks associated with your participation in this survey.

All responses to the survey will remain confidential. Data will be analyzed in aggregate and no individual responses will be reported. By completing this survey, you indicate your consent to participate in the study. This project has been approved by the University of Cincinnati Institutional Review Board. If you have any questions, please call Jerry Jordan at (513) 556-3543 or Karen Ludwig at (513) 556-1479 at ESC or the Chair of the Institutional Review Board - Social and Behavioral Sciences, University of Cincinnati - (513) 558-5784. Thank you for your participation.

Confidential Identifier: Because we will be collecting information over the next year through multiple surveys and observations, we need an identification number which will allow researchers to match responses to the same individual. Therefore we are asking that you provide the following information. All "identifiers" will be stripped from the final database.

The last 4-digits of your Social Security number

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Month of your birth (e.g., January = 01, March = 03, October = 10)

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Day of your birth (1st = 01, 15th = 15, 23rd = 23)

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In the space below, please describe briefly *why* you became a Mathematics Coach:

THANK YOU! PLEASE GO ON TO THE REST OF THE SURVEY.

Please read the following statements and choose the response that most accurately describes your opinion. When answering these questions please think not only about this professional development training, but also about training received in the summer and fall of 2007, weekly CENTRA meetings, and any other support you may have received from your regional coordinator or the Kentucky Center for Mathematics, and how it has or has not helped you in your role as a mathematic coach in your school.

With the Mathematics Coaching Program...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
18. I have a greater understanding of how students learn mathematics.	○	○	○	○	○
19. I have increased my knowledge of effective instructional strategies for teaching mathematics.	○	○	○	○	○
20. I have increased my mathematical content knowledge.	○	○	○	○	○
21. I have greater knowledge of the Kentucky Core Content.	○	○	○	○	○
22. I am better able to coach others in their teaching of Kentucky Core Content.	○	○	○	○	○
23. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	○	○	○	○	○
24. I am better able to identify best practices for classroom instruction that support reasoning and problem solving skills.	○	○	○	○	○
25. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	○	○	○	○	○
26. I am more proficient in using multiple methods for measuring student performance.	○	○	○	○	○
27. I am better able to coach others in using multiple methods for measuring student performance.	○	○	○	○	○

28. I am better able to use assessment data to refine my teaching practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. I am more able to coach others in how to use assessment data to refine their teaching practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
30. The materials and resources provided in this mathematics coaching program will assist me in coaching other teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I am pleased with the overall quality of this professional development program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

KCM maintains an internet website that includes pages for Mathematics Coaches. The items below ask you about how you might use the website in relation to your coaching activities.

I use to KCM website to:	<u>Never</u>	<u>Seldom</u>	<u>Occasionally</u>	<u>Frequently</u>
33. Enter coaching log data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Access information about training and/or applications.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Access resources from the KCM Resources page.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Access resources for teaching from the	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Coaching webpage.

38. Visit the discussion forum.

The questions below will ask you about your *visiting* regional coordinator. Please give us your honest feedback about your interactions with that RC this year.

22. In the past year, approximately how many times have you contacted your *visiting* regional coordinator? _____

23. Overall, did the visiting regional coordinator respond to you/your need in a timely manner?

- Yes
- No

24. In the past year, how many times were you actually visited by your *visiting* regional coordinator?

25. Were these visits helpful to you as a coach?

- Yes, Helpful
- Somewhat Helpful
- No, Not at all Helpful

26. What was the primary benefit (if any) of having the RC visit you?

27. Other comments about the regional coordinators?

The next set of questions will ask you about your interactions with the staff at the Kentucky Center for Mathematics.

28. Please estimate how many times in the past year you initiated contact with a staff person at the Kentucky Center for Mathematics?

29. Overall, did the staff person at the Kentucky Center for Mathematics respond to you/your need in a timely manner?

- Yes
- No

30. Overall, was staff person at the Kentucky Center for Mathematics helpful in responding to your needs as a coach?

- Yes, Helpful
- Somewhat Helpful
- No, Not at all Helpful

31. Other comments about the staff at the Kentucky Center for Mathematics or the Center in general?

We have just two questions about your CENTRA meetings.

32. Overall, were you helped by CENTRA meetings in assisting you with your coaching duties?

- Yes, Helpful
- Somewhat Helpful
- No, Not at all Helpful

33. What was the primary benefit, if any, of these CENTRA meetings?

34. This set of questions that you will be asked are about different types of support that you may or may not have received. Please read the list of statements below, and state whether you agree or disagree with each.

Support from your school or district...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I am given time to properly prepare for my role as a coach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Other teachers in my school value the coaching program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We have a just few questions about your experience as a coach *in general*.

	<u>Never</u>	<u>Seldom</u>	<u>Frequently</u>	<u>Always</u>
35. Thinking about your coaching activities in general ...				
a. With each specific teacher, I was able to coach them during the planning of a lesson or event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. With each specific teacher, I was able to observe the planned lesson or event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. With each specific teacher, I was able to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

coach them by reflecting about the lesson or event.

36. Again, thinking about your coaching activities <i>in general</i>...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
a. At my school (or schools), we now have a well established community of coaches.	○	○	○	○	○
b. I have been able to offer effective professional development for my coachees.	○	○	○	○	○

37. Are you participating in the mathematics coaching program next year?

- Yes
- No

48. If “NO”, why are you/your school not participating?

Evaluation of QUILT Program, Fall 2007
Kentucky Center for Mathematics

Thank you for taking the time to complete this survey. You are being asked to complete this survey to evaluate the effectiveness of the QUILT Program that you have just completed. This survey may or may not benefit you directly but your input could assist the Kentucky Center for Mathematics in improving future professional development sessions for teachers within the State of Kentucky. There are no anticipated risks associated with your participation in this survey. Participants can withdraw from the survey at any time.

All responses to the survey will remain confidential. Data will be analyzed in aggregate and no individual responses will be reported. By completing this survey, you indicate your consent to participate in the study. This project has been approved by the Northern Kentucky University’s Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants.

Confidential Identifier: Because we will be collecting information over the next year through multiple surveys and observations, we need an identification number which will allow researchers to match responses to the same individual. Therefore we are asking that you provide the following information. All “identifiers” will be stripped from the final database.

The last 4-digits of your Social Security number

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Month of your birth (e.g., January = 01, March = 03, October = 10)

--	--

Day of your birth (1st = 01, 15th = 15, 23rd = 23)

--	--

Directions: Read the following responses and choose which one most accurately describes your opinion. When completing this survey, please think only of the information provided to you in the QUILT Program that you have just completed. Please fill in the circles completely.

Examples: Wrong ✱ Wrong ○ Wrong ⚡ Correct

With the QUILT Program...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
1. I have a greater understanding of the relationship between questioning practices in the classroom and student learning outcomes.	○	○	○	○	○
2. I can effectively communicate the characteristics of “effective classroom questioning” to teachers in my school/district.	○	○	○	○	○

3. I can identify teacher behaviors that limit effective classroom questioning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With the QUILT Program...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
4. I can communicate to other teachers how the asking of classroom questions affects a students' readiness to respond.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I am able to effectively use the <u>verbal</u> techniques for eliciting student responses to questions that were presented in this program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am able to effectively use the <u>nonverbal</u> techniques for eliciting student responses to questions that were presented in this program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.					
8. I have a greater understanding of how my reaction to student responses affects their responding patterns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I can accurately assess my own personal questioning practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I can accurately assess the personal questioning practices of other teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I feel better prepared to function as a mathematics coach for my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I will be able to relay the strategies presented in this professional development program to other teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>
13. I have a better understanding of what constitutes the effective questioning of students in a classroom setting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. I have greater knowledge of effective questioning techniques and practices that encourage student responses.					
15. I have the knowledge to teach students how to ask questions effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I was pleased with the overall quality of the QUILT professional development program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Coachee Survey Spring 2008
Kentucky Center for Mathematics

Thank you for taking the time to complete this survey. You are being asked to complete this survey to evaluate the effectiveness of the professional development you have received through the Kentucky Center of Mathematics (KCM) regarding the coaching program. This survey may or may not benefit you directly but your input could assist the KCM in improving future programs for teachers. There are no anticipated risks associated with your participation in this survey. Participants can withdraw from the survey at any time.

All responses to the survey will remain confidential. Data will be analyzed in aggregate and no individual responses will be reported. Your responses will be downloaded to our server and will be protected by University of Cincinnati's firewall and college-level password protection. Please note that absolute confidentiality cannot be guaranteed due to the limited protections of Internet access. By completing this survey, you indicate your consent to participate. This project has been approved by the University of Cincinnati Institutional Review Board. Approval of this project only signifies that the procedures adequately protect the rights and welfare of the participants.

We do not expect you to experience any discomfort from participating in this survey. However, if you have any questions or concerns at any time, please feel free to contact one of these individuals:

Karen Ludwig at (513) 556-1479 (ludwigkm@ucmail.uc.edu) or Jerry Jordan at (513) 556-3543 (jordanjm@ucmail.uc.edu) at the University of Cincinnati Evaluation Services Center or you may contact the Chair of the Institutional Review Board - Social and Behavioral Sciences, University of Cincinnati at (513) 558-5784 (Claudia.Norman@uc.edu). Thank you for your participation.

Directions: Please read the following statements and choose which response most accurately describes your opinion.

1.) How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?

- Two or more times per week
- Once a week
- At least once every two weeks
- At least once a month
- Less than once a month
- I did not meet with my coach

2. There are multiple roles and duties that coaches can perform for schools and teachers. Please review the following list of conversational topics that may have been a part of your interactions with your coach. Please indicate how often these topics were central to your interaction and how helpful those conversations were.

How often did you talk with your coach about this topic?			TOPICS You may have talked with your coach about:	How helpful were these conversations?			
<u>Never</u>	<u>Occasionally</u>	<u>Frequently</u>		<u>Helpful</u>	<u>Somewhat Helpful</u>	<u>Not Helpful</u>	<u>Not Applicable</u>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Classroom management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Instructional strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Assessment strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Mathematics content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please tell us to what extent you agree or disagree with the following statements.

My mathematics coach has provided information, resources, or materials that ...	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>Does Not Apply</u>
3. Increase my understanding of how students learn mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Increase my mathematical content knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Increase my knowledge of the Kentucky Core Content.
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.
8. Allow me to better identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.

9. There are many techniques that your coach may have used during the school year. Please review the following list and state if your coach has use these during any of your meetings, as well as the degree to which the meeting was helpful to you as a mathematics teacher.

Did your coach use ...

Was it helpful ...

Did your coach use ...		Was it helpful ...		
<u>Yes</u>	<u>No</u>		<u>Somewhat Helpful</u>	<u>Not Helpful</u>
<input type="radio"/>	<input type="radio"/>	a. Co-teaching	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	b. Modeling	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	c. Planning discussions	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	d. Data collection	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	e . Reflective discussions	<input type="radio"/>	<input type="radio"/>

10. Did your mathematics coach provide professional development sessions for your school?

- Yes
 NO

11. If yes, please describe the professional development.

Please tell us to what extent you agree or disagree with the following statements.

12. The teachers in my building have been open to working with the mathematics coach.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. My mathematics coach receives appropriate administrative support.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

14. What improvements would you recommend?

Thank You!

mathematical content knowledge.

Because of my schools involvement in the Mathematics Coaching program...

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
4. Teachers in this school or district have greater knowledge of the Kentucky Core Content.	○	○	○	○	○	○
5. Teachers in this school or district can better analyze student work for the purpose of identifying the mathematical skills the work represents.	○	○	○	○	○	○
6. Teachers in this school or district are better able to <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	○	○	○	○	○	○

The next section will deal with how the coaching program is implemented in your school.

7. We know that each school’s program is different; tell me how your school’s/district’s math coach spends his/her day? (Probe for amount of time talking with coachees, other duties ...)

8. Has your Math coach provided professional development in your school/district?

Yes ○

No ○

If yes, what has been the type of professional development provided by the Math coach?

If not, do you see this as a role for the Math coach in your school/district?

Please tell me if you strongly agree, agree, are neutral, disagree, or strongly disagree with the following statements.

The activities of the Mathematics Coach...

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
9. Effectively support my school's/district's mathematics curriculum.	○	○	○	○	○	○
10. Are easy to implement in my school/district.	○	○	○	○	○	○

The next section will look at any benefits or difficulties that your school/district has experienced while participating in the math coaching program.

11. What benefits has your school/district experienced since implementing the Mathematics Coaching Program?
 These can include benefits to students, teachers, benefits related to additional resources for the district, or the like.

12. How have other math teachers responded to having a math coach in their school/district?

13. What have been the biggest challenges that your school/district has faced because of its involvement in the Math Coaching Program? These challenges can involve issues with students, teachers, resources, or the like.

Please tell me if you strongly agree, agree, are neutral, disagree, or strongly disagree with the following statements.

The Math Coaching program as implemented in my school...

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
14. Encourages learning that is in line with Kentucky Core Content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Promotes having children actively involved in doing mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Helps students develop a strong conceptual framework from which to build future mathematics skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Has improved the quality of mathematics teaching in my school/district.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Promotes student learning by identifying where they need additional instruction and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
19. I am pleased with the overall quality of the Math Coaching program.	O	O	O	O	O	O
20. Other teachers in this district/school value the Math Coaching program.	O	O	O	O	O	O

The final set of questions that you will be asked refer to different types of support your school/district may or may not have been able to provide to math coaches. Please tell me if you strongly agree, agree, are neutral, disagree, or strongly disagree with the following statements.

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
21. This school or district has sufficient funds and resources to implement the Math Coaching program.	O	O	O	O	O	O
22. Math Coaches have adequate time to prepare for their activities.	O	O	O	O	O	O
23. Budget issues make it difficult to provide Math Coaches with the supplies they request.	O	O	O	O	O	O
24. Expenses related to granting release time for teachers to attend the Math Coach's professional development sessions that occur throughout the year, are easily absorbed by the district.	O	O	O	O	O	O

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Neutral</u>	<u>Agree</u>	<u>Strongly Agree</u>	<u>No Opinion</u>
25. This district or school has adequate space to implement the Math Coaching Program.	O	O	O	O	O	O
26. The Math Coaching program has been worth the resources (time, money) our school/district has committed to its implementation.	O	O	O	O	O	O

26a. Why do you agree/disagree with the statement in Question 26?

27. Are you participating in the mathematics coaching program next year?

- O Yes
- O No

28. If “NO”, why are you/your school not participating?

29. If “YES”, Please think about the individual needs of your school/district. What additional resources would you like to see provided in the next school year to increase the effectiveness of the math coaching program in your school or district?

KCM Coaching Program -- The focus group guide is as follows:

- 1. Introductions**
- 2. Description of the Coaching program utilized over the past academic year**
 - a. How did you implement it in your school or classroom?**
 - b. How did it change your teaching versus previous years?**
- 3. Related Professional Development you took over the last year**
 - a. Describe what PD you had**
 - b. Did it help you implement the program?**
 - c. Give examples**
- 4. Describe interactions you had with the vendors**
 - a. Give examples**
 - b. Usefulness?**
 - c. Changes you would like in future years?**
- 5. Describe interactions you had with the KCM staff**
 - a. Give examples**
 - b. Usefulness?**
 - c. Changes you would like in future years?**
- 6. What effects did this Coaching program have on other teachers in your building and students' achievement in mathematics?**
 - a. Related to daily work**
 - b. Related to testing results**
 - c. Give Examples**
- 7. If you were asked, would you like to continue implementing this program?**
 - a. Why or why not?**
- 8. Any other comments?**
- 9. Thank you**

Appendix B: Coach and Coachee Mathematics Belief Data

Table B-1: Coaches, Cohort 1, Year 2006-7, Mathematics Efficacy
(Includes only coaches who took both Summer 2006 and Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	8.6	1.97 (.857)	35	5.6	1.89 (.820)	36
2. I am able to remember most of the mathematics I learn in a course after the course is over.	82.4	3.94 (.886)	34	72.2	3.64 (1.099)	36
3. I get frustrated if I don't understand what I am studying in mathematics.	72.2	3.67 (.862)	36	72.2	3.61 (.903)	36
4. I like doing mathematics.	83.3	4.42 (.770)	36	88.9	4.50 (.941)	36
5. I am very interested in mathematics.	88.9	4.44 (.843)	36	88.9	4.58 (.841)	36
6. I am able to learn mathematics well.	82.9	4.09 (.981)	35	80.6	4.00 (1.014)	36
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.**	16.7	2.28 (1.111)	36	5.6	1.81 (.786)	36
8. I am good at doing mathematics.	69.4	3.89 (.979)	36	80.6	4.03 (1.028)	36
9. I am able to successfully solve most mathematical problems with which I am confronted.	77.8	3.94 (.630)	36	83.3	4.06 (.791)	36

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-2: Coaches, Cohort 1, Year 2006-7, Learning Mathematics
(Includes only coaches who took both Summer 2006 and Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	5.6	1.67 (.862)	36	5.6	1.69 (.856)	36
11. Learning mathematics mainly involves memorizing procedures.	.0	1.86 (.648)	35	11.1	1.97 (1.028)	36
12. In order to learn mathematics you need to learn a different method for each new type of problem.	11.1	2.14 (.867)	36	13.9	2.14 (.931)	36
13. People learn mathematics by working together in cooperative groups.	83.3	3.97 (.560)	36	94.4	4.22 (.540)	36
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.33 (.478)	36	97.2	4.50 (.561)	36
15. I know I understand mathematics when I can apply mathematics to a new situation.	94.4	4.50 (.609)	36	97.2	4.64 (.543)	36
16. People learn mathematics by doing hands on activities.	97.2	4.39 (.549)	36	97.1	4.49 (.562)	35
17. I know I understand mathematics when I get a good grade on an exam.	44.4	3.19 (.920)	36	40.0	3.11 (.932)	35
18. Anyone can learn mathematics.	86.1	4.03 (.810)	36	91.4	4.14 (.550)	35
19. I know I understand mathematics when I can explain the mathematics to someone else.	97.2	4.64 (.543)	36	100.0	4.77 (.426)	35
20. Making mistakes is part of learning mathematics.	100.0	4.64 (.487)	36	97.1	4.57 (.558)	35

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-3: Coaches, Cohort 1, Year 2006-7, Nature of Mathematics
(Includes only coaches who took both Summer 2006 and Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.**	40.0	3.09 (1.040)	35	17.1	2.51 (.853)	35
22. Doing mathematics consists mainly of using rules.	22.2	2.83 (.811)	36	18.2	2.48 (.906)	33
23. Getting the right answer is the most important part of mathematics.	8.3	2.31 (.624)	36	14.3	2.37 (.973)	35
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	2.8	1.97 (.446)	36	2.9	1.83 (.568)	35
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	5.6	1.94 (.826)	36	5.7	1.80 (.933)	35
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	2.8	1.86 (.543)	36	5.6	1.86 (.683)	36
27. Solving mathematics problems frequently involves exploration.	100.0	4.42 (.500)	36	100.0	4.53 (.506)	36
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	50.0	3.36 (.931)	36	36.1	3.03 (1.000)	36
29. Mathematics is an uncreative subject.	2.9	1.69 (.796)	35	.0	1.61 (.549)	36
30. The most important part of mathematics is computation.	8.3	2.22 (.797)	36	2.8	1.92 (.732)	36
31. There are several ways to find the correct solution to a mathematics problem.	97.2	4.39 (.766)	36	97.2	4.67 (.535)	36
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	13.9	2.50 (.811)	36	8.3	2.28 (.659)	36
33. Knowing step-by-step procedures is necessary to solve mathematical problems.**	30.6	3.03 (.845)	36	11.1	2.28 (.779)	36

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-4: Coaches, Cohort 1, Year 2006-7, Mathematics Efficacy
 (Includes all coaches who took either the Summer 2006 or the Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	6.3	1.95 (.750)	63	4.5	1.82 (.786)	44
2. I am able to remember most of the mathematics I learn in a course after the course is over.	82.3	3.90 (.804)	62	75.0	3.75 (1.102)	44
3. I get frustrated if I don't understand what I am studying in mathematics.	64.1	3.47 (.908)	64	65.9	3.48 (.976)	44
4. I like doing mathematics.	85.9	4.41 (.729)	64	90.9	4.57 (.873)	44
5. I am very interested in mathematics.	90.6	4.44 (.794)	64	90.9	4.61 (.784)	44
6. I am able to learn mathematics well.	85.7	4.14 (.877)	63	84.1	4.11 (.970)	44
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	10.9	2.05 (.983)	64	4.5	1.75 (.751)	44
8. I am good at doing mathematics.	68.8	3.86 (.957)	64	84.1	4.11 (.970)	44
9. I am able to successfully solve most mathematical problems with which I am confronted.	75.0	3.86 (.732)	64	86.4	4.14 (.765)	44

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-5: Coaches, Cohort 1, Year 2006-7, Learning Mathematics
(Includes all coaches who took either the Summer 2006 or the Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	3.1	1.55 (.733)	64	4.5	1.77 (.859)	44
11. Learning mathematics mainly involves memorizing procedures.	3.2	1.90 (.712)	63	11.4	2.09 (1.007)	44
12. In order to learn mathematics you need to learn a different method for each new type of problem.	10.9	2.16 (.801)	64	11.4	2.16 (.861)	44
13. People learn mathematics by working together in cooperative groups.	85.9	3.97 (.503)	64	90.9	4.14 (.554)	44
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.31 (.467)	64	95.5	4.45 (.589)	44
15. I know I understand mathematics when I can apply mathematics to a new situation.**	96.9	4.42 (.558)	64	97.7	4.64 (.532)	44
16. People learn mathematics by doing hands on activities.	98.4	4.34 (.511)	64	95.3	4.40 (.583)	43
17. I know I understand mathematics when I get a good grade on an exam.	42.2	3.14 (.889)	64	37.2	3.14 (.861)	43
18. Anyone can learn mathematics.	88.9	4.17 (.752)	63	90.7	4.12 (.625)	43
19. I know I understand mathematics when I can explain the mathematics to someone else.	98.4	4.58 (.529)	64	100.0	4.72 (.454)	43
20. Making mistakes is part of learning mathematics.	100.0	4.58 (.498)	64	97.7	4.53 (.550)	43

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-6: Coaches, Cohort 1, Year 2006-7, Nature of Mathematics
(Includes all coaches who took either the Summer 2006 or the Spring 2007 surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	33.3	2.92 (.972)	63	18.6	2.58 (.852)	43
22. Doing mathematics consists mainly of using rules.	26.6	2.83 (.883)	64	22.0	2.59 (.921)	41
23. Getting the right answer is the most important part of mathematics.	6.3	2.28 (.603)	64	14.0	2.42 (.932)	43
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	6.3	2.05 (.628)	64	2.3	1.88 (.544)	43
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	3.1	1.84 (.739)	64	4.7	1.86 (.889)	43
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	3.1	1.89 (.567)	64	4.5	1.86 (.632)	44
27. Solving mathematics problems frequently involves exploration.	95.3	4.31 (.560)	64	97.7	4.48 (.549)	44
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	51.6	3.31 (.957)	64	43.2	3.16 (.963)	44
29. Mathematics is an uncreative subject.	1.6	1.61 (.686)	62	.0	1.64 (.532)	44
30. The most important part of mathematics is computation.	6.3	2.22 (.745)	64	2.3	1.98 (.698)	44
31. There are several ways to find the correct solution to a mathematics problem.**	98.4	4.39 (.657)	64	97.7	4.64 (.532)	44
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	14.1	2.48 (.816)	64	6.8	2.32 (.639)	44
33. Knowing step-by-step procedures is necessary to solve mathematical problems.**	28.1	2.92 (.860)	64	11.4	2.39 (.784)	44

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-7: Coachees, Cohort 1, Year 2006-7, Mathematics Efficacy
(Includes only coachees who took both Fall 2006 and Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	6.2	1.83 (.863)	161	6.8	1.83 (.930)	161
2. I am able to remember most of the mathematics I learn in a course after the course is over.	72.7	3.72 (1.026)	161	71.4	3.71 (1.098)	161
3. I get frustrated if I don't understand what I am studying in mathematics.	59.7	3.36 (1.192)	159	62.1	3.39 (1.090)	161
4. I like doing mathematics.	78.0	4.14 (1.005)	159	81.4	4.20 (.947)	161
5. I am very interested in mathematics.	74.5	4.05 (1.023)	161	75.8	4.07 (1.028)	161
6. I am able to learn mathematics well.	74.4	3.96 (1.069)	160	74.8	3.98 (.977)	159
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	16.4	2.11 (1.091)	159	15.0	2.08 (1.067)	160
8. I am good at doing mathematics.	73.1	3.86 (1.021)	160	72.8	3.85 (.959)	158
9. I am able to successfully solve most mathematical problems with which I am confronted.	75.8	3.86 (.843)	161	78.0	3.86 (.903)	159

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-8: Coachees, Cohort 1, Year 2006-7, Learning Mathematics
(Includes only coachees who took both Fall 2006 and Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	8.2	1.93 (.918)	158	8.8	1.97 (.914)	160
11. Learning mathematics mainly involves memorizing procedures.	23.6	2.59 (1.021)	161	24.8	2.59 (.997)	161
12. In order to learn mathematics you need to learn a different method for each new type of problem.	10.6	2.22 (.790)	161	11.3	2.32 (.774)	159
13. People learn mathematics by working together in cooperative groups.	68.9	3.68 (.658)	161	69.6	3.67 (.731)	161
14. I try to understand the reasoning behind the procedures I use in mathematics.	92.5	4.17 (.735)	161	90.7	4.14 (.631)	161
15. I know I understand mathematics when I can apply mathematics to a new situation.	93.8	4.34 (.635)	160	98.8	4.34 (.502)	160
16. People learn mathematics by doing hands on activities.	87.0	4.22 (.756)	161	87.0	4.16 (.715)	161
17. I know I understand mathematics when I get a good grade on an exam. **	59.6	3.53 (.895)	161	51.9	3.33 (.915)	160
18. Anyone can learn mathematics.	79.4	3.99 (.789)	160	78.9	3.88 (.773)	161
19. I know I understand mathematics when I can explain the mathematics to someone else.	98.8	4.52 (.549)	161	98.8	4.48 (.526)	161
20. Making mistakes is part of learning mathematics.	98.8	4.47 (.548)	161	99.4	4.47 (.513)	161

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-9: Coachees, Cohort 1, Year 2006-7, Nature of Mathematics
(Includes only coachees who took both Fall 2006 and Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	49.4	3.25 (1.022)	158	44.7	3.23 (.974)	159
22. Doing mathematics consists mainly of using rules.	41.9	3.09 (.927)	160	44.7	3.19 (.917)	161
23. Getting the right answer is the most important part of mathematics.	11.9	2.36 (.878)	160	15.5	2.53 (.830)	161
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	12.5	2.26 (.865)	160	8.7	2.28 (.726)	161
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	8.8	2.11 (.836)	160	8.1	2.17 (.785)	161
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	6.3	2.09 (.735)	158	4.4	2.08 (.661)	159
27. Solving mathematics problems frequently involves exploration.	88.5	4.06 (.643)	157	94.3	4.17 (.506)	159
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	53.8	3.38 (.819)	158	53.8	3.35 (.836)	158
29. Mathematics is an uncreative subject.	3.1	1.88 (.732)	159	1.3	1.85 (.677)	159
30. The most important part of mathematics is computation.	5.6	2.30 (.734)	160	11.3	2.40 (.811)	159
31. There are several ways to find the correct solution to a mathematics problem.	97.5	4.34 (.527)	160	96.3	4.29 (.531)	160
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	16.9	2.57 (.866)	160	10.6	2.40 (.793)	161
33. Knowing step-by-step procedures is necessary to solve mathematical problems.	45.6	3.18 (.922)	160	37.5	3.09 (.882)	160

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-10: Coachees, Cohort 1, Year 2006-7, Mathematics Efficacy
(Includes all coachees who took either Fall 2006 or Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	7.5	1.90 (.889)	585	6.8	1.84 (.929)	191
2. I am able to remember most of the mathematics I learn in a course after the course is over.	69.7	3.67 (1.019)	587	73.3	3.74 (1.067)	191
3. I get frustrated if I don't understand what I am studying in mathematics.	62.3	3.43 (1.084)	584	59.2	3.33 (1.072)	191
4. I like doing mathematics.	75.8	4.05 (1.020)	583	82.6	4.21 (.946)	190
5. I am very interested in mathematics.	69.6	3.93 (1.061)	585	77.4	4.10 (1.021)	190
6. I am able to learn mathematics well.	72.9	3.90 (1.017)	582	77.2	4.03 (.936)	189
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	14.0	2.12 (1.007)	585	14.7	2.06 (1.057)	190
8. I am good at doing mathematics.	68.7	3.78 (.969)	584	73.9	3.89 (.927)	188
9. I am able to successfully solve most mathematical problems with which I am confronted.	71.9	3.78 (.870)	588	77.8	3.87 (.890)	189

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-11: Coachees, Cohort 1, Year 2006-7, Learning Mathematics
(Includes all coachees who took either Fall 2006 or Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	8.8	1.99 (.913)	580	7.4	1.95 (.877)	190
11. Learning mathematics mainly involves memorizing procedures.	23.7	2.62 (.977)	586	23.6	2.57 (.992)	191
12. In order to learn mathematics you need to learn a different method for each new type of problem.	13.5	2.37 (.840)	584	11.1	2.32 (.775)	189
13. People learn mathematics by working together in cooperative groups.	66.3	3.66 (.698)	585	69.1	3.66 (.749)	191
14. I try to understand the reasoning behind the procedures I use in mathematics.	90.5	4.12 (.700)	588	91.6	4.16 (.613)	191
15. I know I understand mathematics when I can apply mathematics to a new situation.	93.7	4.25 (.596)	586	98.4	4.32 (.501)	190
16. People learn mathematics by doing hands on activities.	88.2	4.19 (.695)	584	88.0	4.16 (.703)	191
17. I know I understand mathematics when I get a good grade on an exam. **	57.4	3.49 (.891)	587	52.1	3.34 (.950)	190
18. Anyone can learn mathematics.	79.0	3.94 (.817)	586	78.5	3.90 (.788)	191
19. I know I understand mathematics when I can explain the mathematics to someone else.	97.1	4.44 (.590)	588	98.4	4.48 (.551)	191
20. Making mistakes is part of learning mathematics.	98.1	4.44 (.539)	588	99.5	4.46 (.510)	191

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-12: Coachees, Cohort 1, Year 2006-7, Nature of Mathematics
(Includes all coachees who took either Fall 2006 or Spring 2007 surveys)

	Fall 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	52.0	3.32 (.983)	569	45.0	3.21 (.972)	189
22. Doing mathematics consists mainly of using rules.	44.7	3.18 (.893)	570	42.9	3.14 (.921)	191
23. Getting the right answer is the most important part of mathematics.	14.9	2.42 (.901)	569	16.2	2.51 (.839)	191
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it. **	14.7	2.41 (.881)	570	8.9	2.28 (.734)	191
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	10.4	2.21 (.836)	570	7.9	2.14 (.790)	191
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems. **	8.6	2.22 (.803)	567	4.8	2.10 (.681)	189
27. Solving mathematics problems frequently involves exploration. **	85.1	3.99 (.687)	563	94.2	4.16 (.522)	189
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	56.8	3.44 (.780)	565	52.1	3.31 (.872)	188
29. Mathematics is an uncreative subject.	5.0	1.93 (.754)	564	1.1	1.83 (.655)	189
30. The most important part of mathematics is computation.	10.7	2.42 (.813)	568	11.6	2.38 (.821)	189
31. There are several ways to find the correct solution to a mathematics problem.	94.2	4.27 (.615)	568	96.8	4.29 (.522)	190
32. Those who are good in mathematics can solve a mathematics problem within a few minutes. **	20.5	2.63 (.909)	566	11.5	2.41 (.815)	191
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	48.7	3.27 (.907)	569	36.8	3.06 (.910)	190

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-13: Coaches, Cohort 1, Year 2006-8, Mathematics Efficacy
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	6.3	2.00 (.730)	16	6.3	1.75 (.775)	16	.0	1.50 (.516)	16
2. I am able to remember most of the mathematics I learn in a course after the course is over.	93.8	4.25 (.775)	16	81.3	3.81 (1.167)	16	75.0	3.94 (1.181)	16
3. I get frustrated if I don't understand what I am studying in mathematics.	75.0	3.69 (1.014)	16	62.5	3.44 (.814)	16	56.3	3.13 (1.088)	16
4. I like doing mathematics.	93.8	4.63 (.619)	16	100.0	4.75 (.447)	16	93.8	4.63 (.619)	16
5. I am very interested in mathematics.	100.0	4.69 (.479)	16	100.0	4.75 (.447)	16	100.0	4.81 (.403)	16
6. I am able to learn mathematics well.	93.8	4.31 (.602)	16	87.5	4.06 (1.124)	16	87.5	4.38 (.719)	16
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	6.3	2.06 (.929)	16	6.3	1.81 (.834)	16	6.7	1.73 (.884)	15
8. I am good at doing mathematics.	75.0	4.06 (.929)	16	87.5	4.19 (.834)	16	75.0	4.00 (1.095)	16
9. I am able to successfully solve most mathematical problems with which I am confronted.	81.3	4.06 (.680)	16	87.5	4.13 (.806)	16	87.5	4.25 (.856)	16

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-14: Coaches, Cohort 1, Year 2006-8, Learning Mathematics
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	12.5	1.81 (1.109)	16	.0	1.63 (.619)	16	.0	1.69 (.873)	16
11. Learning mathematics mainly involves memorizing procedures.	.0	1.75 (.577)	16	.0	1.63 (.619)	16	6.3	2.00 (.894)	16
12. In order to learn mathematics you need to learn a different method for each new type of problem.	6.3	2.06 (.680)	16	6.3	2.00 (.816)	16	6.3	1.88 (.719)	16
13. People learn mathematics by working together in cooperative groups.	93.8	4.06 (.443)	16	93.8	4.19 (.544)	16	87.5	4.06 (.772)	16
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.38 (.500)	16	100.0	4.69 (.479)	16	100.0	4.44 (.512)	16
15. I know I understand mathematics when I can apply mathematics to a new situation.	100.0	4.63 (.500)	16	100.0	4.56 (.512)	16	100.0	4.63 (.500)	16
16. People learn mathematics by doing hands on activities.	93.8	4.38 (.619)	16	100.0	4.53 (.516)	15	100.0	4.50 (.516)	16
17. I know I understand mathematics when I get a good grade on an exam.	43.8	3.19 (1.047)	16	40.0	3.20 (.775)	15	56.3	3.50 (.632)	16
18. Anyone can learn mathematics.	93.8	4.31 (.602)	16	100.0	4.27 (.458)	15	93.8	4.31 (.602)	16
19. I know I understand mathematics when I can explain the mathematics to someone else.	100.0	4.63 (.500)	16	100.0	4.73 (.458)	15	100.0	4.81 (.403)	16
20. Making mistakes is part of learning mathematics.	100.0	4.63 (.500)	16	100.0	4.53 (.516)	15	100.0	4.69 (.479)	16

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-15: Coaches, Cohort 1, Year 2006-8, Nature of Mathematics
 (Includes only coaches who took the Summer 2006, Spring 2007, and Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	37.5	3.19 (1.167)	16	13.3	2.53 (.834)	15	12.5	2.44 (.814)	16
22. Doing mathematics consists mainly of using rules.	25.0	2.88 (.885)	16	7.1	2.36 (.745)	14	6.3	2.38 (.619)	16
23. Getting the right answer is the most important part of mathematics.	6.3	2.31 (.602)	16	20.0	2.47 (1.125)	15	6.3	2.06 (.854)	16
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	.0	1.94 (.250)	16	6.7	1.93 (.704)	15	6.3	2.06 (.854)	16
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	.0	1.94 (.772)	16	13.3	1.93 (1.223)	15	.0	1.69 (.602)	16
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	.0	1.75 (.447)	16	.0	1.75 (.447)	16	.0	1.69 (.479)	16
27. Solving mathematics problems frequently involves exploration.	100.0	4.50 (.516)	16	100.0	4.63 (.500)	16	100.0	4.50 (.516)	16
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	43.8	3.31 (.873)	16	31.3	3.00 (.966)	16	25.0	2.88 (.957)	16
29. Mathematics is an uncreative subject.	.0	1.44 (.512)	16	.0	1.63 (.619)	16	6.3	1.75 (1.000)	16
30. The most important part of mathematics is computation.	6.3	2.06 (.854)	16	6.3	2.00 (.730)	16	.0	1.94 (.574)	16
31. There are several ways to find the correct solution to a mathematics problem.	100.0	4.50 (.516)	16	100.0	4.63 (.500)	16	100.0	4.69 (.479)	16
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	.0	2.13 (.500)	16	.0	2.19 (.403)	16	6.3	2.06 (.772)	16
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	31.3	3.00 (.816)	16	6.3	2.31 (.704)	16	6.3	2.38 (.619)	16

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-16: Coaches, Cohort 1, Year 2006-8, Mathematics Efficacy
 (Includes all coaches who took either the Summer 2006, the Spring 2007, or the Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	6.3	1.95 (.750)	63	4.5	1.82 (.786)	44	.0	1.55 (.510)	22
2. I am able to remember most of the mathematics I learn in a course after the course is over.	82.3	3.90 (.804)	62	75.0	3.75 (1.102)	44	81.8	4.00 (1.024)	22
3. I get frustrated if I don't understand what I am studying in mathematics. **	64.1	3.47 (.908)	64	65.9	3.48 (.976)	44	40.9	2.86 (1.082)	22
4. I like doing mathematics.	85.9	4.41 (.729)	64	90.9	4.57 (.873)	44	95.5	4.73 (.550)	22
5. I am very interested in mathematics. **	90.6	4.44 (.794)	64	90.9	4.61 (.784)	44	100.0	4.86 (.351)	22
6. I am able to learn mathematics well.	85.7	4.14 (.877)	63	84.1	4.11 (.970)	44	90.9	4.45 (.671)	22
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	10.9	2.05 (.983)	64	4.5	1.75 (.751)	44	4.8	1.76 (.768)	21
8. I am good at doing mathematics.	68.8	3.86 (.957)	64	84.1	4.11 (.970)	44	81.8	4.18 (1.006)	22
9. I am able to successfully solve most mathematical problems with which I am confronted. **	75.0	3.86 (.732)	64	86.4	4.14 (.765)	44	90.9	4.36 (.790)	22

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-17: Coaches, Cohort 1, Year 2006-8, Learning Mathematics

(Includes all coaches who took either the Summer 2006, the Spring 2007, or the Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	3.1	1.55 (.733)	64	4.5	1.77 (.859)	44	.0	1.77 (.869)	22
11. Learning mathematics mainly involves memorizing procedures.	3.2	1.90 (.712)	63	11.4	2.09 (1.007)	44	4.5	1.95 (.844)	22
12. In order to learn mathematics you need to learn a different method for each new type of problem.	10.9	2.16 (.801)	64	11.4	2.16 (.861)	44	4.5	2.05 (.722)	22
13. People learn mathematics by working together in cooperative groups.	85.9	3.97 (.503)	64	90.9	4.14 (.554)	44	86.4	4.00 (.690)	22
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.31 (.467)	64	95.5	4.45 (.589)	44	100.0	4.50 (.512)	22
15. I know I understand mathematics when I can apply mathematics to a new situation.	96.9	4.42 (.558)	64	97.7	4.64 (.532)	44	100.0	4.64 (.492)	22
16. People learn mathematics by doing hands on activities.	98.4	4.34 (.511)	64	95.3	4.40 (.583)	43	100.0	4.45 (.510)	22
17. I know I understand mathematics when I get a good grade on an exam.	42.2	3.14 (.889)	64	37.2	3.14 (.861)	43	50.0	3.41 (.666)	22
18. Anyone can learn mathematics.	88.9	4.17 (.752)	63	90.7	4.12 (.625)	43	95.5	4.32 (.568)	22
19. I know I understand mathematics when I can explain the mathematics to someone else.	98.4	4.58 (.529)	64	100.0	4.72 (.454)	43	100.0	4.64 (.492)	22
20. Making mistakes is part of learning mathematics.	100.0	4.58 (.498)	64	97.7	4.53 (.550)	43	100.0	4.64 (.492)	22

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-18: Coaches, Cohort 1, Year 2006-8, Nature of Mathematics

(Includes all coaches who took either the Summer 2006, the Spring 2007, or the Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	33.3	2.92 (.972)	63	18.6	2.58 (.852)	43	13.6	2.55 (.912)	22
22. Doing mathematics consists mainly of using rules.	26.6	2.83 (.883)	64	22.0	2.59 (.921)	41	9.1	2.36 (.727)	22
23. Getting the right answer is the most important part of mathematics.	6.3	2.28 (.603)	64	14.0	2.42 (.932)	43	4.5	2.05 (.722)	22
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	6.3	2.05 (.628)	64	2.3	1.88 (.544)	43	4.5	2.05 (.722)	22
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	3.1	1.84 (.739)	64	4.7	1.86 (.889)	43	.0	1.73 (.550)	22
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	3.1	1.89 (.567)	64	4.5	1.86 (.632)	44	.0	1.68 (.477)	22
27. Solving mathematics problems frequently involves exploration.	95.3	4.31 (.560)	64	97.7	4.48 (.549)	44	100.0	4.45 (.510)	22
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	51.6	3.31 (.957)	64	43.2	3.16 (.963)	44	22.7	2.86 (.889)	22
29. Mathematics is an uncreative subject.	1.6	1.61 (.686)	62	.0	1.64 (.532)	44	4.5	1.68 (.894)	22
30. The most important part of mathematics is computation.	6.3	2.22 (.745)	64	2.3	1.98 (.698)	44	.0	1.91 (.526)	22
31. There are several ways to find the correct solution to a mathematics problem. **	98.4	4.39 (.657)	64	97.7	4.64 (.532)	44	100.0	4.68 (.477)	22
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	14.1	2.48 (.816)	64	6.8	2.32 (.639)	44	9.1	2.18 (.795)	22
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	28.1	2.92 (.860)	64	11.4	2.39 (.784)	44	9.1	2.45 (.671)	22

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-19: Coachees, Cohort 1, Year 2006-8, Mathematics Efficacy
 (Includes only coachees who took the Fall 2006, Spring 2007, and Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	7.7	1.75 (.883)	52	3.8	1.67 (.857)	52	3.9	1.65 (.744)	51
2. I am able to remember most of the mathematics I learn in a course after the course is over.	65.4	3.65 (1.101)	52	73.1	3.67 (1.232)	52	74.5	3.78 (1.101)	51
3. I get frustrated if I don't understand what I am studying in mathematics.	55.8	3.15 (1.243)	52	61.5	3.38 (1.013)	52	57.7	3.33 (1.098)	52
4. I like doing mathematics.	76.9	4.19 (1.067)	52	84.6	4.35 (.947)	52	84.6	4.25 (.926)	52
5. I am very interested in mathematics.	76.9	4.12 (1.003)	52	76.9	4.13 (1.085)	52	78.8	4.21 (.825)	52
6. I am able to learn mathematics well.	76.9	4.00 (1.066)	52	82.7	4.15 (.916)	52	88.5	4.15 (.777)	52
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	17.3	2.12 (1.114)	52	15.4	2.06 (1.127)	52	15.7	2.08 (1.111)	51
8. I am good at doing mathematics.	75.0	3.94 (.978)	52	80.4	3.92 (1.017)	51	78.8	3.94 (.873)	52
9. I am able to successfully solve most mathematical problems with which I am confronted.	75.0	3.88 (.784)	52	86.5	3.96 (.862)	52	78.8	3.90 (.748)	52

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-20: Coachees, Cohort 1, Year 2006-8, Learning Mathematics
(Includes only coachees who took the Fall 2006, Spring 2007, and Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	7.7	1.85 (.872)	52	9.6	2.02 (.939)	52	5.8	1.79 (.848)	52
11. Learning mathematics mainly involves memorizing procedures.	19.2	2.44 (.978)	52	19.2	2.40 (1.015)	52	13.5	2.23 (.854)	52
12. In order to learn mathematics you need to learn a different method for each new type of problem.	7.7	2.17 (.734)	52	15.4	2.27 (.888)	52	11.5	2.27 (.795)	52
13. People learn mathematics by working together in cooperative groups.	67.3	3.67 (.678)	52	67.3	3.65 (.764)	52	73.1	3.81 (.687)	52
14. I try to understand the reasoning behind the procedures I use in mathematics.	90.4	4.12 (.732)	52	88.5	4.06 (.698)	52	96.1	4.25 (.523)	51
15. I know I understand mathematics when I can apply mathematics to a new situation. **	94.1	4.24 (.619)	51	100.0	4.38 (.491)	52	100.0	4.51 (.505)	51
16. People learn mathematics by doing hands on activities.	88.5	4.27 (.843)	52	88.5	4.21 (.696)	52	94.2	4.31 (.579)	52
17. I know I understand mathematics when I get a good grade on an exam.	51.9	3.38 (.844)	52	53.8	3.33 (1.024)	52	55.8	3.27 (1.012)	52
18. Anyone can learn mathematics.	82.7	4.04 (.791)	52	82.7	3.90 (.693)	52	90.4	4.06 (.639)	52
19. I know I understand mathematics when I can explain the mathematics to someone else.	98.1	4.48 (.542)	52	100.0	4.54 (.503)	52	100.0	4.63 (.486)	52
20. Making mistakes is part of learning mathematics.	98.1	4.44 (.608)	52	100.0	4.42 (.499)	52	98.1	4.58 (.605)	52

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-21: Coachees, Cohort 1, Year 2006-8, Nature of Mathematics
 (Includes only coachees who took the Fall 2006, Spring 2007, and Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	42.3	3.06 (1.018)	52	36.5	3.06 (.850)	52	32.7	2.96 (.949)	52
22. Doing mathematics consists mainly of using rules. **	40.4	3.04 (.907)	52	50.0	3.23 (.962)	52	25.0	2.73 (.910)	52
23. Getting the right answer is the most important part of mathematics.	13.5	2.29 (.977)	52	11.5	2.58 (.776)	52	9.6	2.27 (.795)	52
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	11.5	2.17 (.879)	52	9.6	2.17 (.810)	52	3.8	2.04 (.656)	52
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	7.7	2.04 (.839)	52	3.8	1.98 (.754)	52	7.7	2.06 (.802)	52
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	3.8	2.06 (.639)	52	3.8	2.02 (.727)	52	5.8	2.06 (.669)	52
27. Solving mathematics problems frequently involves exploration.	82.7	4.06 (.752)	52	92.3	4.13 (.525)	52	92.3	4.23 (.703)	52
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	55.8	3.38 (.771)	52	49.0	3.27 (.850)	51	44.2	3.23 (.831)	52
29. Mathematics is an uncreative subject.	3.8	1.83 (.678)	52	.0	1.85 (.573)	52	1.9	1.75 (.622)	52
30. The most important part of mathematics is computation.	1.9	2.12 (.646)	52	5.8	2.25 (.738)	52	3.8	2.19 (.658)	52
31. There are several ways to find the correct solution to a mathematics problem.	98.1	4.31 (.506)	52	96.1	4.29 (.540)	51	100.0	4.38 (.491)	52
32. Those who are good in mathematics can solve a mathematics problem within a few minutes. **	13.5	2.52 (.804)	52	1.9	2.13 (.525)	52	7.7	2.17 (.678)	52
33. Knowing step-by-step procedures is necessary to solve mathematical problems.	36.5	2.98 (.896)	52	35.3	3.06 (.881)	51	32.7	2.96 (.862)	52

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-22: Coachees, Cohort 1, Year 2006-8, Mathematics Efficacy
 (Includes all coachees who took either the Fall 2006, the Spring 2007, or the Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	7.5	1.90 (.889)	585	6.8	1.84 (.929)	191	8.6	1.84 (.900)	128
2. I am able to remember most of the mathematics I learn in a course after the course is over.	69.7	3.67 (1.019)	587	73.3	3.74 (1.067)	191	77.3	3.82 (1.015)	128
3. I get frustrated if I don't understand what I am studying in mathematics.	62.3	3.43 (1.084)	584	59.2	3.33 (1.072)	191	60.5	3.39 (1.141)	129
4. I like doing mathematics.	75.8	4.05 (1.020)	583	82.6	4.21 (.946)	190	79.8	4.14 (.990)	129
5. I am very interested in mathematics.	69.6	3.93 (1.061)	585	77.4	4.10 (1.021)	190	72.9	4.05 (.983)	129
6. I am able to learn mathematics well.	72.9	3.90 (1.017)	582	77.2	4.03 (.936)	189	79.1	3.98 (.948)	129
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	14.0	2.12 (1.007)	585	14.7	2.06 (1.057)	190	11.9	2.06 (.994)	126
8. I am good at doing mathematics.	68.7	3.78 (.969)	584	73.9	3.89 (.927)	188	69.8	3.78 (.984)	129
9. I am able to successfully solve most mathematical problems with which I am confronted.	71.9	3.78 (.870)	588	77.8	3.87 (.890)	189	73.6	3.81 (.830)	129

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-23: Coachees, Cohort 1, Year 2006-8, Learning Mathematics

(Includes all coachees who took either the Fall 2006, the Spring 2007, or the Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	8.8	1.99 (.913)	580	7.4	1.95 (.877)	190	7.8	1.91 (.910)	129
11. Learning mathematics mainly involves memorizing procedures.	23.7	2.62 (.977)	586	23.6	2.57 (.992)	191	19.4	2.46 (.927)	129
12. In order to learn mathematics you need to learn a different method for each new type of problem.	13.5	2.37 (.840)	584	11.1	2.32 (.775)	189	10.9	2.36 (.791)	128
13. People learn mathematics by working together in cooperative groups.	66.3	3.66 (.698)	585	69.1	3.66 (.749)	191	68.2	3.75 (.674)	129
14. I try to understand the reasoning behind the procedures I use in mathematics.	90.5	4.12 (.700)	588	91.6	4.16 (.613)	191	96.1	4.26 (.521)	128
15. I know I understand mathematics when I can apply mathematics to a new situation. **	93.7	4.25 (.596)	586	98.4	4.32 (.501)	190	99.2	4.39 (.506)	128
16. People learn mathematics by doing hands on activities.	88.2	4.19 (.695)	584	88.0	4.16 (.703)	191	91.4	4.20 (.580)	128
17. I know I understand mathematics when I get a good grade on an exam. **	57.4	3.49 (.891)	587	52.1	3.34 (.950)	190	47.3	3.15 (.969)	129
18. Anyone can learn mathematics.	79.0	3.94 (.817)	586	78.5	3.90 (.788)	191	85.3	4.00 (.650)	129
19. I know I understand mathematics when I can explain the mathematics to someone else.	97.1	4.44 (.590)	588	98.4	4.48 (.551)	191	99.2	4.50 (.517)	129
20. Making mistakes is part of learning mathematics.	98.1	4.44 (.539)	588	99.5	4.46 (.510)	191	97.7	4.52 (.574)	129

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-24: Coachees, Cohort 1, Year 2006-8, Nature of Mathematics

(Includes all coachees who took either the Fall 2006, the Spring 2007, or the Spring 2008 Surveys)

	Fall 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	52.0	3.32 (.983)	569	45.0	3.21 (.972)	189	41.9	3.12 (.944)	129
22. Doing mathematics consists mainly of using rules. **	44.7	3.18 (.893)	570	42.9	3.14 (.921)	191	31.8	2.91 (.897)	129
23. Getting the right answer is the most important part of mathematics.	14.9	2.42 (.901)	569	16.2	2.51 (.839)	191	10.2	2.28 (.803)	128
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it. **	14.7	2.41 (.881)	570	8.9	2.28 (.734)	191	6.2	2.17 (.730)	129
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works. **	10.4	2.21 (.836)	570	7.9	2.14 (.790)	191	8.5	2.14 (.768)	129
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems. **	8.6	2.22 (.803)	567	4.8	2.10 (.681)	189	3.1	2.06 (.609)	129
27. Solving mathematics problems frequently involves exploration. **	85.1	3.99 (.687)	563	94.2	4.16 (.522)	189	89.1	4.14 (.637)	128
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem. **	56.8	3.44 (.780)	565	52.1	3.31 (.872)	188	46.5	3.24 (.818)	129
29. Mathematics is an uncreative subject.	5.0	1.93 (.754)	564	1.1	1.83 (.655)	189	3.1	1.85 (.697)	129
30. The most important part of mathematics is computation.	10.7	2.42 (.813)	568	11.6	2.38 (.821)	189	11.6	2.41 (.797)	129
31. There are several ways to find the correct solution to a mathematics problem.	94.2	4.27 (.615)	568	96.8	4.29 (.522)	190	96.9	4.30 (.594)	129
32. Those who are good in mathematics can solve a mathematics problem within a few minutes. **	20.5	2.63 (.909)	566	11.5	2.41 (.815)	191	14.7	2.43 (.809)	129
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	48.7	3.27 (.907)	569	36.8	3.06 (.910)	190	34.1	2.98 (.857)	129

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-25: Coaches, Cohort 2, Year 2007-8, Mathematics Efficacy
 (Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	11.5	1.81 (.939)	26	.0	1.69 (.618)	26
2. I am able to remember most of the mathematics I learn in a course after the course is over.	84.6	3.88 (.711)	26	84.6	3.96 (.662)	26
3. I get frustrated if I don't understand what I am studying in mathematics.	50.0	3.19 (1.201)	26	50.0	3.19 (1.059)	26
4. I like doing mathematics.	100.0	4.62 (.496)	26	100.0	4.62 (.496)	26
5. I am very interested in mathematics.	100.0	4.62 (.496)	26	96.2	4.58 (.578)	26
6. I am able to learn mathematics well.	88.5	4.04 (.774)	26	96.2	4.27 (.533)	26
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	3.8	1.85 (.732)	26	11.5	2.15 (.967)	26
8. I am good at doing mathematics.	80.8	3.85 (.834)	26	84.6	4.04 (.599)	26
9. I am able to successfully solve most mathematical problems with which I am confronted.	84.0	3.96 (.790)	25	92.3	4.12 (.516)	26

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-26: Coaches, Cohort 2, Year 2007-8, Learning Mathematics
 (Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	7.7	1.73 (.919)	26	3.8	1.88 (.816)	26
11. Learning mathematics mainly involves memorizing procedures.	.0	2.00 (.632)	26	.0	2.04 (.528)	26
12. In order to learn mathematics you need to learn a different method for each new type of problem.	3.8	2.00 (.748)	26	3.8	1.92 (.628)	26
13. People learn mathematics by working together in cooperative groups.	69.2	3.73 (.533)	26	76.9	3.85 (.543)	26
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.31 (.471)	26	100.0	4.23 (.430)	26
15. I know I understand mathematics when I can apply mathematics to a new situation.	96.2	4.42 (.578)	26	100.0	4.46 (.508)	26
16. People learn mathematics by doing hands on activities.	100.0	4.31 (.471)	26	92.3	4.19 (.567)	26
17. I know I understand mathematics when I get a good grade on an exam.	53.8	3.46 (.859)	26	53.8	3.35 (.977)	26
18. Anyone can learn mathematics.	96.2	4.08 (.392)	26	88.5	4.08 (.688)	26
19. I know I understand mathematics when I can explain the mathematics to someone else.	100.0	4.54 (.508)	26	100.0	4.69 (.471)	26
20. Making mistakes is part of learning mathematics.	100.0	4.38 (.496)	26	100.0	4.38 (.496)	26

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-27: Coaches, Cohort 2, Year 2007-8, Nature of Mathematics
(Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	19.2	2.77 (.765)	26	15.4	2.42 (.857)	26
22. Doing mathematics consists mainly of using rules.	26.9	2.77 (.992)	26	15.4	2.46 (.811)	26
23. Getting the right answer is the most important part of mathematics.	7.7	2.38 (.697)	26	11.5	2.38 (.804)	26
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	3.8	1.96 (.599)	26	3.8	1.96 (.599)	26
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	3.8	1.85 (.675)	26	3.8	1.92 (.744)	26
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	.0	1.96 (.599)	26	.0	1.85 (.543)	26
27. Solving mathematics problems frequently involves exploration.	84.6	4.04 (.720)	26	84.6	4.04 (.916)	26
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	30.8	2.88 (.909)	26	34.6	3.08 (.891)	26
29. Mathematics is an uncreative subject.	3.8	1.73 (.667)	26	7.7	1.81 (.849)	26
30. The most important part of mathematics is computation.	3.8	2.00 (.693)	26	.0	2.04 (.528)	26
31. There are several ways to find the correct solution to a mathematics problem.	96.2	4.19 (.801)	26	100.0	4.42 (.504)	26
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	26.9	2.73 (.919)	26	3.8	2.35 (.689)	26
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	26.9	2.92 (.935)	26	.0	2.23 (.652)	26

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-28: Coaches, Cohort 2, Year 2007-8, Mathematics Efficacy
 (Includes all coaches who took either the Summer 2007 or the Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	8.3	1.75 (.874)	36	3.3	1.80 (.847)	30
2. I am able to remember most of the mathematics I learn in a course after the course is over.	80.6	3.83 (.910)	36	83.3	3.90 (.712)	30
3. I get frustrated if I don't understand what I am studying in mathematics.	44.4	3.03 (1.230)	36	53.3	3.30 (1.055)	30
4. I like doing mathematics.	97.2	4.58 (.554)	36	96.7	4.47 (.819)	30
5. I am very interested in mathematics.	97.2	4.58 (.554)	36	93.3	4.47 (.860)	30
6. I am able to learn mathematics well.	91.7	4.11 (.708)	36	93.3	4.23 (.568)	30
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	5.6	1.81 (.786)	36	13.3	2.23 (.971)	30
8. I am good at doing mathematics.	83.3	4.00 (.828)	36	80.0	3.93 (.691)	30
9. I am able to successfully solve most mathematical problems with which I am confronted.	85.7	3.97 (.785)	35	90.0	4.03 (.615)	30

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-29: Coaches, Cohort 2, Year 2007-8, Learning Mathematics
 (Includes all coaches who took either the Summer 2007 or the Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	8.3	1.78 (.959)	36	3.3	1.80 (.805)	30
11. Learning mathematics mainly involves memorizing procedures.	.0	1.92 (.649)	36	3.3	2.10 (.607)	30
12. In order to learn mathematics you need to learn a different method for each new type of problem.	2.8	1.92 (.692)	36	6.7	2.00 (.695)	30
13. People learn mathematics by working together in cooperative groups.	69.4	3.72 (.615)	36	76.7	3.80 (.610)	30
14. I try to understand the reasoning behind the procedures I use in mathematics.	100.0	4.36 (.487)	36	100.0	4.20 (.407)	30
15. I know I understand mathematics when I can apply mathematics to a new situation.	97.2	4.39 (.549)	36	100.0	4.43 (.504)	30
16. People learn mathematics by doing hands on activities.	97.2	4.28 (.513)	36	93.3	4.23 (.568)	30
17. I know I understand mathematics when I get a good grade on an exam.	60.0	3.54 (.780)	35	50.0	3.30 (.952)	30
18. Anyone can learn mathematics.	88.9	3.97 (.446)	36	90.0	4.07 (.640)	30
19. I know I understand mathematics when I can explain the mathematics to someone else.	100.0	4.64 (.487)	36	100.0	4.63 (.490)	30
20. Making mistakes is part of learning mathematics.	100.0	4.50 (.507)	36	100.0	4.37 (.490)	30

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-30: Coaches, Cohort 2, Year 2007-8, Nature of Mathematics
(Includes all coaches who took either the Summer 2007 or the Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	19.4	2.69 (.856)	36	23.3	2.57 (.935)	30
22. Doing mathematics consists mainly of using rules.	30.6	2.83 (1.028)	36	23.3	2.63 (.890)	30
23. Getting the right answer is the most important part of mathematics.	5.6	2.31 (.624)	36	10.0	2.37 (.765)	30
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	5.6	1.89 (.708)	36	6.7	2.07 (.691)	30
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	2.8	1.78 (.637)	36	3.3	1.97 (.718)	30
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	.0	1.89 (.622)	36	.0	1.87 (.571)	30
27. Solving mathematics problems frequently involves exploration.	86.1	4.11 (.708)	36	86.7	4.07 (.868)	30
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	36.1	2.97 (.941)	36	33.3	3.03 (.890)	30
29. Mathematics is an uncreative subject.	2.8	1.72 (.659)	36	6.7	1.87 (.819)	30
30. The most important part of mathematics is computation.	2.8	2.03 (.654)	36	.0	2.07 (.521)	30
31. There are several ways to find the correct solution to a mathematics problem.	94.4	4.25 (.770)	36	100.0	4.40 (.498)	30
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	22.2	2.58 (.937)	36	10.0	2.47 (.776)	30
33. Knowing step-by-step procedures is necessary to solve mathematical problems. **	27.8	2.86 (.961)	36	3.3	2.30 (.702)	30

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-31: Coachees, Cohort 2, Year 2007-8, Mathematics Efficacy
(Includes only coachees who took both Fall 2007 and Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	5.4	1.77 (.809)	111	6.3	1.86 (.909)	111
2. I am able to remember most of the mathematics I learn in a course after the course is over.	81.1	3.87 (.821)	111	88.2	4.02 (.867)	110
3. I get frustrated if I don't understand what I am studying in mathematics.	63.6	3.47 (1.115)	110	56.4	3.35 (1.170)	110
4. I like doing mathematics.	82.9	4.23 (.914)	111	89.2	4.35 (.782)	111
5. I am very interested in mathematics.	75.5	4.08 (.978)	110	82.7	4.25 (.840)	110
6. I am able to learn mathematics well.	79.3	4.04 (.852)	111	85.5	4.19 (.784)	110
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	7.2	2.02 (.786)	111	13.8	2.08 (.944)	109
8. I am good at doing mathematics.	74.5	3.85 (.911)	110	73.0	3.94 (.856)	111
9. I am able to successfully solve most mathematical problems with which I am confronted.	74.8	3.84 (.826)	111	73.9	3.86 (.830)	111

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-32: Coachees, Cohort 2, Year 2007-8, Learning Mathematics
 (Includes only coachees who took both Fall 2007 and Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	10.0	2.05 (.985)	110	8.1	2.06 (.907)	111
11. Learning mathematics mainly involves memorizing procedures.	25.2	2.64 (.951)	111	21.6	2.54 (.951)	111
12. In order to learn mathematics you need to learn a different method for each new type of problem.	14.5	2.40 (.804)	110	12.6	2.34 (.815)	111
13. People learn mathematics by working together in cooperative groups.	68.5	3.73 (.750)	111	69.1	3.68 (.777)	110
14. I try to understand the reasoning behind the procedures I use in mathematics.	93.7	4.17 (.586)	111	96.4	4.27 (.555)	111
15. I know I understand mathematics when I can apply mathematics to a new situation.	98.2	4.33 (.545)	111	97.3	4.42 (.581)	111
16. People learn mathematics by doing hands on activities.	91.0	4.21 (.676)	111	84.7	4.07 (.710)	111
17. I know I understand mathematics when I get a good grade on an exam.	50.5	3.33 (1.012)	111	51.4	3.46 (.872)	111
18. Anyone can learn mathematics.	82.9	3.91 (.757)	111	84.7	4.03 (.780)	111
19. I know I understand mathematics when I can explain the mathematics to someone else.	97.3	4.44 (.583)	111	97.3	4.50 (.554)	111
20. Making mistakes is part of learning mathematics.	98.2	4.50 (.537)	111	95.5	4.40 (.578)	110

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-33: Coachees, Cohort 2, Year 2007-8, Nature of Mathematics
(Includes only coachees who took both Fall 2007 and Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	48.6	3.26 (.988)	111	43.2	3.21 (.973)	111
22. Doing mathematics consists mainly of using rules.	44.5	3.20 (.886)	110	42.3	3.12 (.970)	111
23. Getting the right answer is the most important part of mathematics.	13.6	2.40 (.859)	110	15.3	2.57 (.880)	111
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it.	12.6	2.30 (.870)	111	7.3	2.20 (.701)	110
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	10.8	2.23 (.881)	111	12.6	2.23 (.953)	111
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	4.5	2.11 (.654)	110	2.7	2.07 (.673)	110
27. Solving mathematics problems frequently involves exploration.	92.7	4.12 (.570)	110	91.0	4.11 (.562)	111
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	48.6	3.26 (.927)	109	44.1	3.32 (.811)	111
29. Mathematics is an uncreative subject.	4.5	1.96 (.700)	111	.0	1.84 (.567)	110
30. The most important part of mathematics is computation.	11.7	2.52 (.807)	111	14.5	2.55 (.915)	110
31. There are several ways to find the correct solution to a mathematics problem.	95.5	4.32 (.618)	111	95.5	4.31 (.586)	110
32. Those who are good in mathematics can solve a mathematics problem within a few minutes.	17.1	2.66 (.847)	111	14.4	2.54 (.840)	111
33. Knowing step-by-step procedures is necessary to solve mathematical problems.	33.0	3.04 (.902)	109	34.5	3.02 (.898)	110

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-34: Coachees, Cohort 2, Year 2007-8, Mathematics Efficacy
(Includes all coachees who took either the Fall 2007 or the Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
1. Often in mathematics, I do not understand the concept behind a problem.	6.6	1.79 (.846)	241	7.2	1.80 (.923)	152
2. I am able to remember most of the mathematics I learn in a course after the course is over. **	72.2	3.68 (.993)	241	84.1	3.97 (.941)	151
3. I get frustrated if I don't understand what I am studying in mathematics.	62.5	3.48 (1.055)	240	54.3	3.28 (1.163)	151
4. I like doing mathematics.	77.5	4.09 (1.035)	240	84.9	4.26 (.947)	152
5. I am very interested in mathematics.	72.1	3.98 (1.041)	240	78.8	4.17 (.985)	151
6. I am able to learn mathematics well. **	74.5	3.94 (.906)	239	84.1	4.17 (.847)	151
7. If I cannot solve a mathematics problem within a few minutes, I will stop trying to solve it.	10.5	2.09 (.912)	239	12.0	2.01 (.930)	150
8. I am good at doing mathematics.	68.1	3.76 (.945)	238	74.3	3.94 (.915)	152
9. I am able to successfully solve most mathematical problems with which I am confronted.	70.8	3.78 (.852)	240	76.2	3.88 (.871)	151

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-35: Coachees, Cohort 2, Year 2007-8, Learning Mathematics
 (Includes all coachees who took either the Fall 2007 or the Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
10. People learn mathematics by listening to lecture.	7.9	1.93 (.928)	239	9.9	2.06 (.947)	151
11. Learning mathematics mainly involves memorizing procedures.	23.2	2.64 (.935)	241	22.4	2.55 (.955)	152
12. In order to learn mathematics you need to learn a different method for each new type of problem.	15.5	2.48 (.839)	239	13.8	2.36 (.826)	152
13. People learn mathematics by working together in cooperative groups.	68.5	3.72 (.709)	241	69.5	3.69 (.741)	151
14. I try to understand the reasoning behind the procedures I use in mathematics. **	93.8	4.17 (.618)	240	96.7	4.29 (.549)	151
15. I know I understand mathematics when I can apply mathematics to a new situation.	97.5	4.33 (.551)	240	97.4	4.41 (.568)	152
16. People learn mathematics by doing hands on activities. **	92.9	4.26 (.634)	241	86.8	4.09 (.709)	152
17. I know I understand mathematics when I get a good grade on an exam.	55.6	3.40 (.962)	241	48.0	3.41 (.849)	152
18. Anyone can learn mathematics.	82.6	3.98 (.780)	241	86.2	4.07 (.734)	152
19. I know I understand mathematics when I can explain the mathematics to someone else.	97.1	4.44 (.568)	241	98.0	4.50 (.540)	152
20. Making mistakes is part of learning mathematics.	97.5	4.48 (.548)	240	95.4	4.38 (.597)	151

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Table B-36: Coachees, Cohort 2, Year 2007-8, Nature of Mathematics
(Includes all coachees who took either the Fall 2007 or the Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score* (SD)	Count	Percent Strongly Agree or Agree	Mean Score* (SD)	Count
21. To understand mathematics, students must solve many problems following examples provided.	50.4	3.34 (.967)	240	44.7	3.23 (.980)	152
22. Doing mathematics consists mainly of using rules.	42.5	3.15 (.895)	240	42.4	3.10 (.950)	151
23. Getting the right answer is the most important part of mathematics.	15.9	2.45 (.901)	239	17.2	2.55 (.892)	151
24. In mathematics, it is not possible to do a problem unless you've first been taught how to do one like it. **	16.7	2.42 (.920)	240	8.6	2.24 (.728)	151
25. Being able to successfully use a rule or formula in mathematics is more important than understanding why the rule or formula works.	8.8	2.21 (.857)	240	12.5	2.23 (.924)	152
26. It is difficult to talk about mathematical ideas because all you can really do is explain how to do specific problems.	7.1	2.19 (.750)	240	5.3	2.11 (.717)	151
27. Solving mathematics problems frequently involves exploration.	93.3	4.15 (.585)	240	90.8	4.10 (.549)	152
28. Most mathematics problems are best solved by deciding on the type of problem and then using a previously learned solution for that type of problem.	50.6	3.30 (.869)	239	48.3	3.34 (.832)	151
29. Mathematics is an uncreative subject.	5.4	1.94 (.769)	241	1.3	1.86 (.600)	151
30. The most important part of mathematics is computation.	13.7	2.53 (.822)	241	13.2	2.50 (.886)	151
31. There are several ways to find the correct solution to a mathematics problem.	96.3	4.37 (.585)	241	96.0	4.31 (.591)	151
32. Those who are good in mathematics can solve a mathematics problem within a few minutes. **	25.3	2.76 (.952)	241	13.2	2.51 (.822)	152
33. Knowing step-by-step procedures is necessary to solve mathematical problems.	39.1	3.08 (.938)	238	37.1	3.05 (.912)	151

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05

Appendix C: Overall Evaluation Survey Data & QUILT Survey data

Table C-1: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Elementary Schools
(Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.38 (.500)	16	82.4	4.18 (1.074)	17
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.31 (.479)	16	88.2	4.24 (1.033)	17
3. I have increased my mathematical content knowledge.	93.8	4.38 (.619)	16	88.2	4.00 (1.061)	17
4. I have greater knowledge of the Kentucky Core Content.	76.5	4.00 (.707)	17	76.5	3.82 (1.185)	17
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	94.1	4.18 (.529)	17	88.2	4.00 (1.061)	17
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.18 (.393)	17	82.4	4.00 (1.118)	17
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	94.1	4.35 (.606)	17	82.4	4.06 (1.144)	17
8. I am more proficient in using multiple methods for measuring student performance.	94.1	4.18 (.529)	17	88.2	4.12 (.993)	17
9. I am better able to use assessment data to refine my teaching practices.	82.4	4.00 (.612)	17	88.2	4.06 (.966)	17

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-1: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Elementary Schools
 (Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)
 Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	64.7	3.88 (.781)	17	81.3	3.88 (1.258)	16
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.29 (.470)	17	82.4	3.94 (1.197)	17
12. I learned to develop action plans that will support my work as a coach in my school.	94.1	4.18 (.529)	17	76.5	4.00 (1.061)	17
13. I learned to implement action plans that will support my work as a coach in my school.	88.2	4.00 (.500)	17	82.4	4.12 (1.054)	17
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	94.1	4.29 (.588)	17	82.4	4.06 (1.144)	17
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.69 (.479)	16	94.1	4.59 (1.004)	17
16. The length of the professional development training was appropriate for the topics covered.	68.8	3.63 (1.258)	16	64.7	3.71 (1.312)	17
17. I was pleased with the overall quality of this professional development course.	100.0	4.44 (.512)	16	88.2	4.47 (1.179)	17

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-2: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Elementary Schools
(Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.44 (.504)	34	83.3	4.22 (1.060)	18
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.50 (.508)	34	88.9	4.22 (1.003)	18
3. I have increased my mathematical content knowledge.	94.1	4.44 (.613)	34	88.9	4.00 (1.029)	18
4. I have greater knowledge of the Kentucky Core Content.	68.6	3.80 (.797)	35	77.8	3.83 (1.150)	18
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	94.3	4.17 (.514)	35	88.9	4.00 (1.029)	18
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	97.1	4.31 (.530)	35	83.3	4.06 (1.110)	18
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	94.3	4.29 (.572)	35	83.3	4.06 (1.110)	18
8. I am more proficient in using multiple methods for measuring student performance.	91.4	4.11 (.530)	35	88.9	4.11 (.963)	18
9. I am better able to use assessment data to refine my teaching practices.	82.9	3.97 (.568)	35	88.9	4.06 (.938)	18

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-2: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Elementary Schools
 (Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)
 Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	76.5	3.91 (.621)	34	82.4	3.88 (1.219)	17
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	97.1	4.29 (.524)	34	83.3	4.00 (1.188)	18
12. I learned to develop action plans that will support my work as a coach in my school.	91.2	4.12 (.537)	34	77.8	4.00 (1.029)	18
13. I learned to implement action plans that will support my work as a coach in my school.	82.4	3.91 (.621)	34	83.3	4.11 (1.023)	18
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	88.2	4.18 (.626)	34	83.3	4.11 (1.132)	18
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.58 (.502)	33	94.4	4.61 (.979)	18
16. The length of the professional development training was appropriate for the topics covered.	60.6	3.61 (1.088)	33	66.7	3.72 (1.274)	18
17. I was pleased with the overall quality of this professional development course.	100.0	4.45 (.506)	33	88.9	4.50 (1.150)	18

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-3: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Middle Schools
 (Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.14 (.378)	7	100.0	4.14 (.378)	7
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.29 (.488)	7	100.0	4.29 (.488)	7
3. I have increased my mathematical content knowledge.	85.7	3.86 (.378)	7	100.0	4.14 (.378)	7
4. I have greater knowledge of the Kentucky Core Content.	71.4	3.57 (.787)	7	85.7	4.00 (.577)	7
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	85.7	3.86 (.900)	7	100.0	4.29 (.488)	7
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.14 (.378)	7	100.0	4.43 (.535)	7
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	85.7	4.29 (.756)	7	100.0	4.57 (.535)	7
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.14 (.378)	7	100.0	4.29 (.488)	7
9. I am better able to use assessment data to refine my teaching practices.	71.4	3.71 (.951)	7	85.7	4.14 (.690)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-3: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Middle Schools
 (Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)
 Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	85.7	3.86 (.900)	7	85.7	4.29 (.756)	7
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	71.4	4.00 (1.155)	7	85.7	4.43 (.787)	7
12. I learned to develop action plans that will support my work as a coach in my school.	71.4	3.71 (.951)	7	85.7	4.29 (.756)	7
13. I learned to implement action plans that will support my work as a coach in my school.	71.4	3.71 (.951)	7	100.0	4.57 (.535)	7
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	85.7	4.14 (.690)	7	100.0	4.57 (.535)	7
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.29 (.488)	7	100.0	4.43 (.535)	7
16. The length of the professional development training was appropriate for the topics covered.	57.1	3.57 (.976)	7	100.0	4.57 (.535)	7
17. I was pleased with the overall quality of this professional development course.	85.7	4.14 (.690)	7	100.0	4.57 (.535)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-4: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Middle Schools
(Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.33 (.492)	12	100.0	4.14 (.378)	7
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.50 (.522)	12	100.0	4.29 (.488)	7
3. I have increased my mathematical content knowledge.	91.7	4.00 (.426)	12	100.0	4.14 (.378)	7
4. I have greater knowledge of the Kentucky Core Content.	66.7	3.58 (.669)	12	85.7	4.00 (.577)	7
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	91.7	3.92 (.669)	12	100.0	4.29 (.488)	7
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.33 (.492)	12	100.0	4.43 (.535)	7
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	91.7	4.42 (.669)	12	100.0	4.57 (.535)	7
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.25 (.452)	12	100.0	4.29 (.488)	7
9. I am better able to use assessment data to refine my teaching practices.	83.3	3.83 (.718)	12	85.7	4.14 (.690)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-4: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, Middle Schools
 (Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)
Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	91.7	3.92 (.669)	12	85.7	4.29 (.756)	7
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	83.3	4.08 (.900)	12	85.7	4.43 (.787)	7
12. I learned to develop action plans that will support my work as a coach in my school.	83.3	3.92 (.793)	12	85.7	4.29 (.756)	7
13. I learned to implement action plans that will support my work as a coach in my school.	83.3	3.92 (.793)	12	100.0	4.57 (.535)	7
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	91.7	4.17 (.577)	12	100.0	4.57 (.535)	7
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.42 (.515)	12	100.0	4.43 (.535)	7
16. The length of the professional development training was appropriate for the topics covered.	75.0	3.75 (.754)	12	100.0	4.57 (.535)	7
17. I was pleased with the overall quality of this professional development course.	91.7	4.17 (.577)	12	100.0	4.57 (.535)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-5: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, High Schools
 (Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	90.0	4.10 (.568)	10	66.7	3.89 (1.054)	9
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	90.0	4.10 (.568)	10	88.9	4.33 (.707)	9
3. I have increased my mathematical content knowledge.	40.0	3.20 (.789)	10	55.6	3.44 (.726)	9
4. I have greater knowledge of the Kentucky Core Content.	40.0	3.10 (.876)	10	66.7	3.89 (.782)	9
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	80.0	3.70 (.675)	10	77.8	3.89 (.928)	9
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	90.0	4.10 (.568)	10	88.9	4.33 (.707)	9
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.20 (.422)	10	88.9	4.44 (.726)	9
8. I am more proficient in using multiple methods for measuring student performance.	50.0	3.30 (.823)	10	88.9	4.11 (.928)	9
9. I am better able to use assessment data to refine my teaching practices.	30.0	2.90 (.876)	10	88.9	4.22 (.972)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-5: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, High Schools
 (Includes only coaches who took both Summer 2006 and Spring 2007 Surveys)
 Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	60.0	3.60 (1.075)	10	88.9	4.22 (.972)	9
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	60.0	3.60 (1.265)	10	100.0	4.56 (.527)	9
12. I learned to develop action plans that will support my work as a coach in my school.	70.0	3.70 (1.059)	10	88.9	4.33 (.707)	9
13. I learned to implement action plans that will support my work as a coach in my school.	60.0	3.50 (.972)	10	88.9	4.22 (.667)	9
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	90.0	4.20 (.632)	10	88.9	4.44 (.726)	9
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.20 (.422)	10	100.0	4.78 (.441)	9
16. The length of the professional development training was appropriate for the topics covered.	20.0	2.70 (.823)	10	100.0	4.44 (.527)	9
17. I was pleased with the overall quality of this professional development course.	80.0	3.90 (.568)	10	100.0	4.78 (.441)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-6: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, High Schools
 (Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	93.8	4.06 (.443)	16	63.6	3.91 (1.044)	11
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	93.8	4.06 (.443)	16	90.9	4.36 (.674)	11
3. I have increased my mathematical content knowledge.	56.3	3.44 (.727)	16	63.6	3.55 (.688)	11
4. I have greater knowledge of the Kentucky Core Content.	43.8	3.19 (.834)	16	72.7	4.09 (.831)	11
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	75.0	3.69 (.602)	16	81.8	4.00 (.894)	11
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	93.8	4.06 (.443)	16	90.9	4.36 (.674)	11
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.25 (.447)	16	90.9	4.45 (.688)	11
8. I am more proficient in using multiple methods for measuring student performance.	43.8	3.25 (.775)	16	90.9	4.09 (.831)	11
9. I am better able to use assessment data to refine my teaching practices.	31.3	3.00 (.816)	16	90.9	4.27 (.905)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-6: Coaches, Overall Evaluation Survey, Year 2006-7, Cohort 1, High Schools
 (Includes all coaches who took either the Summer 2006 or Spring 2007 Surveys)
 Continued...

	Summer 2006			Spring 2007		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	75.0	3.81 (.911)	16	90.9	4.36 (.924)	11
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	75.0	3.75 (1.000)	16	100.0	4.64 (.505)	11
12. I learned to develop action plans that will support my work as a coach in my school.	68.8	3.63 (.957)	16	90.9	4.45 (.688)	11
13. I learned to implement action plans that will support my work as a coach in my school.	62.5	3.50 (.894)	16	90.9	4.27 (.647)	11
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	93.8	4.19 (.544)	16	90.9	4.45 (.688)	11
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.31 (.479)	16	100.0	4.82 (.405)	11
16. The length of the professional development training was appropriate for the topics covered.	37.5	3.06 (.854)	16	100.0	4.45 (.522)	11
17. I was pleased with the overall quality of this professional development course.	87.5	4.00 (.516)	16	100.0	4.73 (.467)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-7: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
(Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.14 (.378)	7	100.0	4.57 (.535)	7	100.0	4.14 (.378)	7
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.00 (.000)	7	100.0	4.43 (.535)	7	100.0	4.14 (.378)	7
3. I have increased my mathematical content knowledge.	85.7	4.00 (.577)	7	100.0	4.14 (.378)	7	71.4	3.86 (.690)	7
4. I have greater knowledge of the Kentucky Core Content.	71.4	3.71 (.488)	7	100.0	4.14 (.378)	7	71.4	3.86 (1.069)	7
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	100.0	4.00 (.000)	7	100.0	4.00 (.000)	7	85.7	4.29 (.756)	7
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.00 (.000)	7	100.0	4.29 (.488)	7	100.0	4.43 (.535)	7
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.29 (.488)	7	100.0	4.14 (.378)	7	100.0	4.57 (.535)	7
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.00 (.000)	7	100.0	4.29 (.488)	7	100.0	4.43 (.535)	7
9. I am better able to use assessment data to refine my teaching practices.	85.7	3.86 (.378)	7	100.0	4.14 (.378)	7	100.0	4.29 (.488)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-7: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)
 Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	71.4	3.71 (.488)	7	100.0	4.29 (.488)	7	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.29 (.488)	7	100.0	4.29 (.488)	7	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	100.0	4.00 (.000)	7	85.7	4.00 (.577)	7	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	100.0	4.00 (.000)	7	100.0	4.29 (.488)	7	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	85.7	4.00 (.577)	7	100.0	4.29 (.488)	7	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.43 (.535)	7	100.0	4.86 (.378)	7	100.0	4.29 (.488)	7
16. The length of the professional development training was appropriate for the topics covered.	85.7	4.14 (1.069)	7	71.4	3.86 (1.069)	7	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.43 (.535)	7	100.0	4.71 (.488)	7	100.0	4.29 (.488)	7

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-8: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
(Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.44 (.504)	34	83.3	4.22 (1.060)	18	100.0	4.36 (.505)	11
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.50 (.508)	34	88.9	4.22 (1.003)	18	100.0	4.36 (.505)	11
3. I have increased my mathematical content knowledge.	94.1	4.44 (.613)	34	88.9	4.00 (1.029)	18	81.8	4.18 (.751)	11
4. I have greater knowledge of the Kentucky Core Content.	68.6	3.80 (.797)	35	77.8	3.83 (1.150)	18	81.8	4.27 (1.009)	11
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	94.3	4.17 (.514)	35	88.9	4.00 (1.029)	18	90.9	4.45 (.688)	11
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	97.1	4.31 (.530)	35	83.3	4.06 (1.110)	18	100.0	4.45 (.522)	11
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	94.3	4.29 (.572)	35	83.3	4.06 (1.110)	18	100.0	4.45 (.522)	11
8. I am more proficient in using multiple methods for measuring student performance.	91.4	4.11 (.530)	35	88.9	4.11 (.963)	18	100.0	4.45 (.522)	11
9. I am better able to use assessment data to refine my teaching practices.	82.9	3.97 (.568)	35	88.9	4.06 (.938)	18	100.0	4.27 (.467)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-8: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
 (Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)
Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	76.5	3.91 (.621)	34	82.4	3.88 (1.219)	17	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	97.1	4.29 (.524)	34	83.3	4.00 (1.188)	18	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	91.2	4.12 (.537)	34	77.8	4.00 (1.029)	18	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	82.4	3.91 (.621)	34	83.3	4.11 (1.023)	18	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	88.2	4.18 (.626)	34	83.3	4.11 (1.132)	18	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.58 (.502)	33	94.4	4.61 (.979)	18	100	4.36 (.505)	11
16. The length of the professional development training was appropriate for the topics covered.	60.6	3.61 (1.088)	33	66.7	3.72 (1.274)	18	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.45 (.506)	33	88.9	4.50 (1.150)	18	90.9	4.27 (.647)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-9: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.20 (.447)	5	100.0	4.20 (.447)	5	100.0	4.60 (.548)	5
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.20 (.447)	5	100.0	4.40 (.548)	5	100.0	4.60 (.548)	5
3. I have increased my mathematical content knowledge.	100.0	4.00 (.000)	5	100.0	4.20 (.447)	5	100.0	4.20 (.447)	5
4. I have greater knowledge of the Kentucky Core Content.	60.0	3.40 (.894)	5	80.0	4.00 (.707)	5	100.0	4.40 (.548)	5
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	80.0	3.80 (1.095)	5	100.0	4.40 (.548)	5	100.0	4.40 (.548)	5
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.20 (.447)	5	100.0	4.60 (.548)	5	100.0	4.80 (.447)	5
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	80.0	4.40 (.894)	5	100.0	4.80 (.447)	5	100.0	4.80 (.447)	5
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.20 (.447)	5	100.0	4.40 (.548)	5	100.0	4.80 (.447)	5
9. I am better able to use assessment data to refine my teaching practices.	80.0	3.80 (1.095)	5	80.0	4.20 (.837)	5	80.0	4.40 (.894)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-9: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)
 Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	80.0	3.80 (1.095)	5	80.0	4.40 (.894)	5	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	80.0	4.20 (.837)	5	80.0	4.60 (.894)	5	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	80.0	3.80 (1.095)	5	80.0	4.40 (.894)	5	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	80.0	3.80 (1.095)	5	100.0	4.80 (.447)	5	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.20 (.447)	5	100.0	4.80 (.447)	5	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.40 (.548)	5	100.0	4.60 (.548)	5	80.0	4.40 (.894)	5
16. The length of the professional development training was appropriate for the topics covered.	80.0	4.00 (.707)	5	100.0	4.80 (.447)	5	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.40 (.548)	5	100.0	4.80 (.447)	5	80.0	4.60 (.894)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-10: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
(Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.33 (.492)	12	100.0	4.14 (.378)	7	100.0	4.60 (.548)	5
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.50 (.522)	12	100.0	4.29 (.488)	7	100.0	4.60 (.548)	5
3. I have increased my mathematical content knowledge.	91.7	4.00 (.426)	12	100.0	4.14 (.378)	7	100.0	4.20 (.447)	5
4. I have greater knowledge of the Kentucky Core Content.	66.7	3.58 (.669)	12	85.7	4.00 (.577)	7	100.0	4.40 (.548)	5
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	91.7	3.92 (.669)	12	100.0	4.29 (.488)	7	100.0	4.40 (.548)	5
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.33 (.492)	12	100.0	4.43 (.535)	7	100.0	4.80 (.447)	5
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	91.7	4.42 (.669)	12	100.0	4.57 (.535)	7	100.0	4.80 (.447)	5
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.25 (.452)	12	100.0	4.29 (.488)	7	100.0	4.80 (.447)	5
9. I am better able to use assessment data to refine my teaching practices.	83.3	3.83 (.718)	12	85.7	4.14 (.690)	7	80.0	4.40 (.894)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-10: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
 (Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)
 Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	91.7	3.92 (.669)	12	85.7	4.29 (.756)	7	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	83.3	4.08 (.900)	12	85.7	4.43 (.787)	7	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	83.3	3.92 (.793)	12	85.7	4.29 (.756)	7	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	83.3	3.92 (.793)	12	100.0	4.57 (.535)	7	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	91.7	4.17 (.577)	12	100.0	4.57 (.535)	7	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.42 (.515)	12	100.0	4.43 (.535)	7	80.0	4.40 (.894)	5
16. The length of the professional development training was appropriate for the topics covered.	75.0	3.75 (.754)	12	100.0	4.57 (.535)	7	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	91.7	4.17 (.577)	12	100.0	4.57 (.535)	7	80.0	4.60 (.894)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-11: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
(Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.33 (.577)	3	66.7	4.00 (1.732)	3	100.0	4.67 (.577)	3
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.33 (.577)	3	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
3. I have increased my mathematical content knowledge.	66.7	3.67 (.577)	3	100.0	4.00 (.000)	3	66.7	4.33 (1.155)	3
4. I have greater knowledge of the Kentucky Core Content.	100.0	4.00 (.000)	3	100.0	4.00 (.000)	3	66.7	4.00 (1.000)	3
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	100.0	4.00 (.000)	3	66.7	3.67 (1.528)	3	66.7	4.33 (1.155)	3
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.33 (.577)	3	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.00 (.000)	3	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
8. I am more proficient in using multiple methods for measuring student performance.	33.3	2.67 (1.155)	3	66.7	3.67 (1.528)	3	66.7	4.33 (1.155)	3
9. I am better able to use assessment data to refine my teaching practices.	33.3	2.67 (1.155)	3	66.7	3.67 (1.528)	3	66.7	4.33 (1.155)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-11: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
 (Includes only coaches who took Summer 2006, Spring 2007, and Spring 2008 Surveys)
 Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	33.3	3.33 (1.528)	3	66.7	3.67 (1.528)	3	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	66.7	3.67 (1.528)	3	100.0	4.67 (.577)	3	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	33.3	3.00 (1.732)	3	66.7	4.00 (1.000)	3	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	33.3	2.67 (1.155)	3	66.7	3.67 (.577)	3	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.33 (.577)	3	66.7	4.33 (1.155)	3	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.33 (.577)	3	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
16. The length of the professional development training was appropriate for the topics covered.	.0	2.33 (.577)	3	100.0	4.33 (.577)	3	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.33 (.577)	3	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-12: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
 (Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	93.8	4.06 (.443)	16	63.6	3.91 (1.044)	11	100.0	4.56 (.527)	9
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	93.8	4.06 (.443)	16	90.9	4.36 (.674)	11	100.0	4.50 (.535)	8
3. I have increased my mathematical content knowledge.	56.3	3.44 (.727)	16	63.6	3.55 (.688)	11	77.8	4.11 (.782)	9
4. I have greater knowledge of the Kentucky Core Content.	43.8	3.19 (.834)	16	72.7	4.09 (.831)	11	88.9	4.33 (.707)	9
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	75.0	3.69 (.602)	16	81.8	4.00 (.894)	11	88.9	4.33 (.707)	9
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	93.8	4.06 (.443)	16	90.9	4.36 (.674)	11	100.0	4.56 (.527)	9
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.25 (.447)	16	90.9	4.45 (.688)	11	100.0	4.44 (.527)	9
8. I am more proficient in using multiple methods for measuring student performance.	43.8	3.25 (.775)	16	90.9	4.09 (.831)	11	88.9	4.44 (.726)	9
9. I am better able to use assessment data to refine my teaching practices.	31.3	3.00 (.816)	16	90.9	4.27 (.905)	11	88.9	4.33 (.707)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-12: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
 (Includes all coaches who took either Summer 2006, Spring 2007, or Spring 2008 Surveys)
Continued...

	Summer 2006			Spring 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	75.0	3.81 (.911)	16	90.9	4.36 (.924)	11	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	75.0	3.75 (1.000)	16	100.0	4.64 (.505)	11	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	68.8	3.63 (.957)	16	90.9	4.45 (.688)	11	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	62.5	3.50 (.894)	16	90.9	4.27 (.647)	11	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	93.8	4.19 (.544)	16	90.9	4.45 (.688)	11	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.31 (.479)	16	100.0	4.82 (.405)	11	100.0	4.56 (.527)	9
16. The length of the professional development training was appropriate for the topics covered.	37.5	3.06 (.854)	16	100.0	4.45 (.522)	11	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	87.5	4.00 (.516)	16	100.0	4.73 (.467)	11	77.8	4.22 (1.093)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

** Significant at .05.

Table C-13: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
(Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.64 (.505)	11	90.9	4.45 (.688)	11
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.82 (.405)	11	100.0	4.55 (.522)	11
3. I have increased my mathematical content knowledge.	81.8	4.18 (.982)	11	81.8	4.09 (.701)	11
4. I have greater knowledge of the Kentucky Core Content.	80.0	4.10 (.738)	10	90.9	4.09 (.831)	11
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	90.9	4.36 (.674)	11	90.9	4.27 (.647)	11
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.55 (.522)	11	100.0	4.55 (.522)	11
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.73 (.467)	11	100.0	4.45 (.522)	11
8. I am more proficient in using multiple methods for measuring student performance.	81.8	4.09 (.701)	11	100.0	4.45 (.522)	11
9. I am better able to use assessment data to refine my teaching practices.	72.7	3.91 (.944)	11	100.0	4.45 (.522)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-13: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
 (Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)
 Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	90.9	4.18 (.603)	11	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.55 (.522)	11	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	90.9	4.18 (.874)	11	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	90.9	4.00 (.775)	11	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.36 (.505)	11	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.82 (.405)	11	81.8	4.36 (.809)	11
16. The length of the professional development training was appropriate for the topics covered.	100.0	4.36 (.505)	11	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.73 (.467)	11	81.8	4.27 (.786)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-14: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
(Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.57 (.514)	14	93.3	4.33 (.617)	15
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.71 (.469)	14	93.3	4.33 (.617)	15
3. I have increased my mathematical content knowledge.	78.6	4.07 (.917)	14	80.0	4.00 (.655)	15
4. I have greater knowledge of the Kentucky Core Content.	76.9	4.00 (.707)	13	86.7	4.00 (.756)	15
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	92.9	4.36 (.633)	14	93.3	4.20 (.561)	15
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	92.9	4.43 (.646)	14	100.0	4.40 (.507)	15
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.64 (.497)	14	93.3	4.27 (.594)	15
8. I am more proficient in using multiple methods for measuring student performance.	85.7	4.14 (.663)	14	93.3	4.27 (.594)	15
9. I am better able to use assessment data to refine my teaching practices.	71.4	3.93 (.917)	14	93.3	4.27 (.594)	15

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-14: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
 (Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)
Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	92.9	4.21 (.579)	14	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.50 (.519)	14	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	85.7	4.14 (.864)	14	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	78.6	3.86 (.770)	14	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.43 (.514)	14	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.71 (.469)	14	86.7	4.27 (.704)	15
16. The length of the professional development training was appropriate for the topics covered.	85.7	4.14 (.663)	14	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.64 (.497)	14	66.7	3.87 (1.125)	15

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-15: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools
(Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	5.00 (.000)	3	100.0	4.33 (.577)	3
3. I have increased my mathematical content knowledge.	66.7	4.33 (1.155)	3	100.0	4.00 (.000)	2
4. I have greater knowledge of the Kentucky Core Content.	33.3	3.00 (1.000)	3	100.0	4.33 (.577)	3
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	66.7	3.67 (.577)	3	100.0	4.33 (.577)	3
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.67 (.577)	3	66.7	3.67 (.577)	3
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.67 (.577)	3	66.7	4.00 (1.000)	3
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.00 (.000)	3	100.0	4.00 (.000)	3
9. I am better able to use assessment data to refine my teaching practices.	33.3	3.33 (.577)	3	66.7	4.00 (1.000)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-15: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools

(Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	100.0	4.33 (.577)	3	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.33 (.577)	3	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	100.0	4.33 (.577)	3	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	66.7	4.00 (1.000)	3	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.67 (.577)	3	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
16. The length of the professional development training was appropriate for the topics covered.	100.0	4.33 (.577)	3	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-16: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools
(Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	5.00 (.000)	3	100.0	4.33 (.577)	3
3. I have increased my mathematical content knowledge.	66.7	4.33 (1.155)	3	100.0	4.00 (.000)	2
4. I have greater knowledge of the Kentucky Core Content.	33.3	3.00 (1.000)	3	100.0	4.33 (.577)	3
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	66.7	3.67 (.577)	3	100.0	4.33 (.577)	3
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	100.0	4.67 (.577)	3	66.7	3.67 (.577)	3
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.67 (.577)	3	66.7	4.00 (1.000)	3
8. I am more proficient in using multiple methods for measuring student performance.	100.0	4.00 (.000)	3	100.0	4.00 (.000)	3
9. I am better able to use assessment data to refine my teaching practices.	33.3	3.33 (.577)	3	66.7	4.00 (1.000)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-16: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools

(Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)

Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	100.0	4.33 (.577)	3	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.33 (.577)	3	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	100.0	4.33 (.577)	3	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	66.7	4.00 (1.000)	3	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.67 (.577)	3	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
16. The length of the professional development training was appropriate for the topics covered.	100.0	4.33 (.577)	3	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-17: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
 (Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)

1. I have a greater understanding of how children learn mathematics.	100.0	4.38 (.518)	8	87.5	4.13 (.641)	8
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0	4.38 (.518)	8	87.5	4.13 (.641)	8
3. I have increased my mathematical content knowledge.	50.0	3.50 (1.195)	8	37.5	3.38 (1.188)	8
4. I have greater knowledge of the Kentucky Core Content.	.0	2.13 (.835)	8	62.5	3.63 (1.188)	8
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	75.0	3.88 (.991)	8	37.5	3.50 (1.069)	8
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	87.5	4.13 (.641)	8	100.0	4.38 (.518)	8
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0	4.50 (.535)	8	100.0	4.50 (.535)	8
8. I am more proficient in using multiple methods for measuring student performance.	62.5	3.50 (1.069)	8	75.0	4.13 (.835)	8
9. I am better able to use assessment data to refine my teaching practices.	25.0	2.63 (1.061)	8	75.0	4.13 (.835)	8

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-17: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
 (Includes only coaches who took both Summer 2007 and Spring 2008 Surveys)
 Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	87.5	4.00 (.535)	8	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0	4.25 (.463)	8	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	62.5	3.63 (1.188)	8	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	50.0	3.50 (.926)	8	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0	4.25 (.463)	8	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0	4.50 (.535)	8	100.0	4.50 (.535)	8
16. The length of the professional development training was appropriate for the topics covered.	50.0	3.13 (.991)	8	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	87.5	4.13 (.641)	8	100.0	4.50 (.535)	8

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-18: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
 (Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
1. I have a greater understanding of how children learn mathematics.	100.0%	4.38 (.518)	8	88.9%	4.11 (.601)	9
2. This training has increased my knowledge of effective instructional strategies for teaching mathematics.	100.0%	4.38 (.518)	8	88.9%	4.22 (.667)	9
3. I have increased my mathematical content knowledge.	50.0%	3.50 (1.195)	8	44.4%	3.44 (1.130)	9
4. I have greater knowledge of the Kentucky Core Content.	.0%	2.13 (.835)	8	66.7%	3.67 (1.118)	9
5. I can better analyze student work for the purpose of identifying the mathematical skills the work represents.	75.0%	3.88 (.991)	8	44.4%	3.56 (1.014)	9
6. I am better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	87.5%	4.13 (.641)	8	100.0%	4.44 (.527)	9
7. I am better able to coach others on the use of best practices for classroom instruction that support reasoning & problem solving skills.	100.0%	4.50 (.535)	8	100.0%	4.56 (.527)	9
8. I am more proficient in using multiple methods for measuring student performance.	62.5%	3.50 (1.069)	8	77.8%	4.22 (.833)	9
9. I am better able to use assessment data to refine my teaching practices.	25.0%	2.63 (1.061)	8	77.8%	4.11 (.782)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-18: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
 (Includes all coaches who took either the Summer 2007 or Spring 2008 Surveys)
 Continued...

	Summer 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
10. I feel prepared to function as a mathematics coach for my school.	87.5%	4.00 (.535)	8	--	-- ()	--
11. I have a greater knowledge of strategies to support change within my school's mathematics curriculum.	100.0%	4.25 (.463)	8	--	-- ()	--
12. I learned to develop action plans that will support my work as a coach in my school.	62.5%	3.63 (1.188)	8	--	-- ()	--
13. I learned to implement action plans that will support my work as a coach in my school.	50.0%	3.50 (.926)	8	--	-- ()	--
14. I will be able to relay the teaching strategies presented in this professional development course to other teachers.	100.0%	4.25 (.463)	8	--	-- ()	--
15. The materials and resources provided in this staff development training program will assist me in coaching other teachers.	100.0%	4.50 (.535)	8	100.0	4.56 (.527)	9
16. The length of the professional development training was appropriate for the topics covered.	50.0%	3.13 (.991)	8	--	-- ()	--
17. I was pleased with the overall quality of this professional development course.	87.5%	4.13 (.641)	8	100.0	4.56 (.527)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-19: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
 (Includes only coaches who took the Spring 2007, Fall 2007, and Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	60.0	3.80 (1.304)	5	40.0	3.00 (1.581)	5
20b. I am given time to properly prepare for my role as a coach.	50.0	3.00 (1.155)	4	60.0	3.60 (1.140)	5	40.0	3.00 (1.581)	5
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	80.0	4.20 (.837)	5	60.0	3.40 (1.517)	5
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	50.0	3.25 (1.500)	4	80.0	4.00 (1.225)	5	60.0	3.80 (1.304)	5
20e. Other teachers in my school value the coaching program.	50.0	3.50 (.577)	4	75.0	4.00 (.816)	4	60.0	3.60 (1.140)	5
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	25.0	3.25 (.500)	4	80.0	4.00 (.707)	5	80.0	3.80 (1.095)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-20: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools**
(Includes only coaches who took the Spring 2007, Fall 2007, and Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	100.0	4.50 (.577)	4	100.0	4.75 (.500)	4
20b. I am given time to properly prepare for my role as a coach.	100.0	4.75 (.500)	4	100.0	4.75 (.500)	4	100.0	5.00 (.000)	4
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	100.0	4.75 (.500)	4	100.0	5.00 (.000)	4
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	5.00 (.000)	4	100.0	4.75 (.500)	4	100.0	5.00 (.000)	4
20e. Other teachers in my school value the coaching program.	75.0	3.75 (1.258)	4	75.0	3.50 (1.000)	4	75.0	3.50 (1.000)	4
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	100.0	4.25 (.500)	4	100.0	4.25 (.500)	4	100.0	4.75 (.500)	4

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-21: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes only coaches who took the Spring 2007, Fall 2007, and Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	100.0	4.60 (.548)	5	80.0	3.80 (1.643)	5
20b. I am given time to properly prepare for my role as a coach.	100.0	4.80 (.447)	5	100.0	4.60 (.548)	5	100.0	4.20 (.447)	5
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	100.0	4.60 (.548)	5	80.0	4.20 (.837)	5
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.60 (.548)	5	100.0	4.80 (.447)	5	100.0	4.00 (.000)	4
20e. Other teachers in my school value the coaching program.	100.0	4.40 (.548)	5	100.0	4.40 (.548)	5	100.0	4.60 (.548)	5
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	80.0	4.60 (.894)	5	100.0	4.20 (.447)	5	100.0	4.40 (.548)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-22: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Elementary Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes all coaches who took either the Spring 2007, Fall 2007, or Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	70.0	4.00 (1.054)	10	72.7	3.91 (1.375)	11
20b. I am given time to properly prepare for my role as a coach.	47.1	2.82 (1.590)	17	60.0	3.80 (1.033)	10	63.6	3.82 (1.401)	11
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	90.0	4.40 (.699)	10	81.8	4.18 (1.250)	11
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	58.8	3.35 (1.320)	17	90.0	4.30 (.949)	10	72.7	4.18 (1.079)	11
20e. Other teachers in my school value the coaching program.	76.5	3.76 (.903)	17	55.6	3.78 (.833)	9	81.8	4.00 (.894)	11
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	58.8	3.59 (1.064)	17	70.0	4.00 (.816)	10	90.9	4.27 (.905)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-23: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, Middle Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools**
(Includes all coaches who took either the Spring 2007, Fall 2007, or Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	100.0	4.33 (.516)	6	100.0	4.60 (.548)	5
20b. I am given time to properly prepare for my role as a coach.	85.7	4.29 (1.113)	7	100.0	4.67 (.516)	6	100.0	4.80 (.447)	5
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	100.0	4.67 (.516)	6	100.0	5.00 (.000)	5
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	85.7	4.57 (1.134)	7	100.0	4.83 (.408)	6	100.0	5.00 (.000)	5
20e. Other teachers in my school value the coaching program.	71.4	3.71 (.951)	7	83.3	3.83 (.983)	6	80.0	3.80 (1.095)	5
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	100.0	4.14 (.378)	7	100.0	4.33 (.516)	6	100.0	4.60 (.548)	5

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-24: Coaches, Overall Evaluation Survey, Year 2006-8, Cohort 1, High Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools**
(Includes all coaches who took either the Spring 2007, Fall 2007, or Spring 2008 Surveys)

	Spring 2007			Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	--	-- ()	--	100.0	4.50 (.535)	8	88.9	4.22 (1.302)	9
20b. I am given time to properly prepare for my role as a coach.	83.3	4.08 (1.3110)	12	87.5	4.38 (.744)	8	100.0	4.44 (.527)	9
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	--	-- ()	--	100.0	4.63 (.518)	8	87.5	4.50 (.756)	8
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.50 (.522)	12	87.5	4.50 (.756)	8	100.0	4.38 (.518)	8
20e. Other teachers in my school value the coaching program.	83.3	3.92 (.793)	12	87.5	4.13 (.641)	8	100.0	4.56 (.527)	9
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	91.7	4.25 (.622)	12	100.0	4.13 (.354)	8	100.0	4.44 (.527)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-25: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes only coaches who took the Fall 2007 or Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	90.0	4.30 (.675)	10	81.8	4.55 (.820)	11
20b. I am given time to properly prepare for my role as a coach.	100.0	4.20 (.422)	10	90.9	4.55 (.688)	11
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	4.60 (.516)	10	100.0	4.73 (.467)	11
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.50 (.527)	10	100.0	4.45 (.522)	11
20e. Other teachers in my school value the coaching program.	80.0	3.90 (.568)	10	81.8	3.82 (.405)	11
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	70.0	3.80 (.632)	10	72.7	3.91 (.701)	11

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-26: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Elementary Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes all coaches who took either the Fall 2007 or Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	76.9	3.85 (1.214)	13	73.3	4.27 (1.033)	15
20b. I am given time to properly prepare for my role as a coach.	92.3	4.08 (.760)	13	93.3	4.47 (.640)	15
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	92.3	4.54 (.660)	13	100.0	4.60 (.507)	15
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.46 (.519)	13	100.0	4.47 (.516)	15
20e. Other teachers in my school value the coaching program.	69.2	3.69 (.751)	13	73.3	3.80 (.561)	15
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	61.5	3.69 (.630)	13	73.3	4.00 (.756)	15

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-27: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes only coaches who took the Fall 2007 or Spring 2008 Surveys)**

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	66.7	4.00 (1.732)	3	33.3	3.33 (1.528)	3
20b. I am given time to properly prepare for my role as a coach.	100.0	4.67 (.577)	3	66.7	4.00 (1.000)	3
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
20e. Other teachers in my school value the coaching program.	66.7	3.33 (1.155)	3	66.7	3.33 (1.155)	3
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	66.7	3.67 (1.528)	3	66.7	3.67 (1.528)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-28: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, Middle Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
 (Includes all coaches who took either the Fall 2007 or Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	66.7	4.00 (1.732)	3	33.3	3.33 (1.528)	3
20b. I am given time to properly prepare for my role as a coach.	100.0	4.67 (.577)	3	66.7	4.00 (1.000)	3
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	4.67 (.577)	3	100.0	4.67 (.577)	3
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	100.0	4.67 (.577)	3	100.0	4.33 (.577)	3
20e. Other teachers in my school value the coaching program.	66.7	3.33 (1.155)	3	66.7	3.33 (1.155)	3
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	66.7	3.67 (1.528)	3	66.7	3.67 (1.528)	3

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-29: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools
(Includes only coaches who took the Fall 2007 or Spring 2008 Surveys)**

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	75.0	3.75 (.463)	8	62.5	3.38 (1.302)	8
20b. I am given time to properly prepare for my role as a coach.	62.5	3.25 (1.035)	8	62.5	3.38 (1.188)	8
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	4.38 (.518)	8	87.5	4.00 (.926)	8
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	87.5	3.75 (.707)	8	87.5	4.00 (.926)	8
20e. Other teachers in my school value the coaching program.	37.5	3.00 (1.069)	8	50.0	3.50 (.926)	8
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	50.0	3.38 (.744)	8	87.5	3.75 (.707)	8

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

**Table C-30: Coaches, Overall Evaluation Survey, Year 2007-8, Cohort 2, High Schools
Availability of and Access to Resources Necessary to Implement Coaching in Schools**
(Includes all coaches who took either the Fall 2007 or Spring 2008 Surveys)

	Fall 2007			Spring 2008		
	Percent Strongly Agree or Agree	Mean Score (SD)	Count	Percent Strongly Agree or Agree	Mean Score (SD)	Count
20a. I receive the necessary support from my principal to implement the Mathematics Coaching program in my school.	75.0	3.75 (.463)	8	66.7	3.56 (1.333)	9
20b. I am given time to properly prepare for my role as a coach.	62.5	3.25 (1.035)	8	66.7	3.56 (1.236)	9
20c. My principal supports my attendance at the Mentor/Coaching professional development sessions that occur throughout the year.	100.0	4.38 (.518)	8	88.9	4.11 (.928)	9
20d. I am provided, by the school, proper space to conduct my duties as a mathematics coach in my school.	87.5	3.75 (.707)	8	88.9	4.11 (.928)	9
20e. Other teachers in my school value the coaching program.	37.5	3.00 (1.069)	8	55.6	3.67 (1.000)	9
20f. The coaching program, as implemented in my school, has improved the quality of mathematics teaching in my school.	50.0	3.38 (.744)	8	88.9	3.89 (.782)	9

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-31: Coach Overall Evaluation Survey, Spring 2008
(Includes all coaches)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I am better able to coach others in their teaching of the Kentucky Core Content.	.0	.0	1.8	52.6	45.6	4.44 (.535)	57
I am better able to coach others in using multiple methods for measuring student performance.	.0	.0	3.5	57.9	38.6	4.35 (.551)	57
I am more able to coach others in how to use assessment data to refine their teaching practices.	.0	.0	8.8	50.9	40.4	4.32 (.631)	57
The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	.0	8.8	12.3	45.6	33.3	4.04 (.906)	57

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-32: Coach Overall Evaluation Survey, Spring 2008
(Cohort 1, All Grade Levels)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I am better able to coach others in their teaching of the Kentucky Core Content.	.0	.0	.0	37.5	62.5	4.63 (.495)	24
I am better able to coach others in using multiple methods for measuring student performance.	.0	.0	.0	50.0	50.0	4.50 (.511)	24
I am more able to coach others in how to use assessment data to refine their teaching practices.	.0	.0	4.2	50.0	45.8	4.42 (.584)	24
The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	.0	8.3	12.5	37.5	41.7	4.13 (.947)	24

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-33: Coach Overall Evaluation Survey, Spring 2008
(Cohort 2, All Grade Levels)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I am better able to coach others in their teaching of the Kentucky Core Content.	.0	.0	3.0	63.6	33.3	4.30 (.529)	33
I am better able to coach others in using multiple methods for measuring student performance.	.0	.0	6.1	63.6	30.3	4.24 (.561)	33
I am more able to coach others in how to use assessment data to refine their teaching practices.	.0	.0	12.1	51.5	36.4	4.24 (.663)	33
The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	.0	9.1	12.1	51.5	27.3	3.97 (.883)	33

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-34: Coach Overall Evaluation Survey, Spring 2008
(All Cohorts, Elementary Coaches)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I am better able to coach others in their teaching of the Kentucky Core Content.	.0	.0	.0	70.4	29.6	4.30 (.465)	27
I am better able to coach others in using multiple methods for measuring student performance.	.0	.0	3.7	66.7	29.6	4.26 (.526)	27
I am more able to coach others in how to use assessment data to refine their teaching practices.	.0	.0	7.4	55.6	37.0	4.30 (.609)	27
The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	.0	11.1	18.5	51.9	18.5	3.78 (.892)	27

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-35: Coach Overall Evaluation Survey, Spring 2008
(All Cohorts, Middle & High School Coaches)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I am better able to coach others in their teaching of the Kentucky Core Content.	.0	.0	3.3	36.7	60.0	4.57 (.568)	30
I am better able to coach others in using multiple methods for measuring student performance.	.0	.0	3.3	50.0	46.7	4.43 (.568)	30
I am more able to coach others in how to use assessment data to refine their teaching practices.	.0	.0	10.0	46.7	43.3	4.33 (.661)	30
The amount of time required in training for the mathematics coaching program is appropriate to meet my needs as a mathematics coach.	.0	6.7	6.7	40.0	46.7	4.27 (.868)	30

* Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-36: Coach Overall Evaluation Survey, Spring 2008
How often do you use the KCM Website to do the following activities?
 (All Cohorts, All Grade Levels)

	Never %	Seldom %	Occasionally %	Frequently %	Count
Enter coaching log data.	1.8	10.5	43.9	43.9	57
Access information about training and/or applications.	3.5	12.3	68.4	15.8	57
Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	5.3	28.1	57.9	8.8	57
Access resources from the KCM Resources page.	1.8	26.3	50.9	21.1	57
Access resources for teaching from the Coaching webpage..	5.3	21.1	59.6	14.0	57
Visit the discussion forum.	26.3	36.8	28.1	8.8	57

Table C-37: Coach Overall Evaluation Survey, Spring 2008
How often do you use the KCM Website to do the following activities?
 (All Grade Levels, Cohort 1)

	Never %	Seldom %	Occasionally %	Frequently %	Count
Enter coaching log data.	.0	.0	45.8	54.2	24
Access information about training and/or applications.	4.2	20.8	54.2	20.8	24
Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	4.2	50.0	37.5	8.3	24
Access resources from the KCM Resources page.	.0	33.3	54.2	12.5	24
Access resources for teaching from the Coaching webpage..	4.2	33.3	45.8	16.7	24
Visit the discussion forum.	25.0	33.3	29.2	12.5	24

Table C-38: Coach Overall Evaluation Survey, Spring 2008
How often do you use the KCM Website to do the following activities?
 (All Grade Levels, Cohort 2)

	Never %	Seldom %	Occasionally %	Frequently %	Count
Enter coaching log data.	3.0	18.2	42.4	36.4	33
Access information about training and/or applications.	3.0	6.1	78.8	12.1	33
Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	6.1	12.1	72.7	9.1	33
Access resources from the KCM Resources page.	3.0	21.2	48.5	27.3	33
Access resources for teaching from the Coaching webpage..	6.1	12.1	69.7	12.1	33
Visit the discussion forum.	27.3	39.4	27.3	6.1	33

Table C-39: Coach Overall Evaluation Survey, Spring 2008
How often do you use the KCM Website to do the following activities?
 (All Cohorts, Elementary Coaches)

	Never %	Seldom %	Occasionally %	Frequently %	Count
Enter coaching log data.	3.7	7.4	51.9	37.0	27
Access information about training and/or applications.	7.4	11.1	63.0	18.5	27
Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	7.4	29.6	48.1	14.8	27
Access resources from the KCM Resources page.	3.7	25.9	51.9	18.5	27
Access resources for teaching from the Coaching webpage..	7.4	25.9	55.6	11.1	27
Visit the discussion forum.	29.6	37.0	25.9	7.4	27

Table C-40: Coach Overall Evaluation Survey, Spring 2008
How often do you use the KCM Website to do the following activities?
 (All Cohorts, Middle & High School Coaches)

	Never %	Seldom %	Occasionally %	Frequently %	Count
Enter coaching log data.	.0	13.3	36.7	50.0	30
Access information about training and/or applications.	.0	13.3	73.3	13.3	30
Find contact information for other personnel (e.g. fellow coach, RC or KCM staff).	3.3	26.7	66.7	3.3	30
Access resources from the KCM Resources page.	.0	26.7	50.0	23.3	30
Access resources for teaching from the Coaching webpage..	3.3	16.7	63.3	16.7	30
Visit the discussion forum.	23.3	36.7	30.0	10.0	30

Table C-41: In the past year, approximately how many times have you contacted your visiting regional coordinator?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
0	7	12.7
1	5	9.1
2	11	20.0
3	3	5.5
4	5	9.1
5	4	7.3
8	3	5.5
9	3	5.5
10	3	5.5
12	4	7.3
15	1	1.8
20	4	7.3
30	2	3.6

n = 55

Table C-42: Overall, did the regional coordinator respond to you/your need in a timely manner?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
Yes	52	96.3
No	2	3.7

n = 54

Table C-43: In the past year, how many times were you actually visited by your visiting regional coordinator?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
1	3	5.4
2	15	26.8
3	14	25.0
4	6	10.7
5	4	7.1
6	2	3.6
7	3	5.4
8	2	3.6
9	6	10.7
10	1	1.8

n = 56

Table C-44: Were these visits helpful to you as a coach?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
No not at all helpful	7	12.5
Somewhat helpful	20	35.7
Yes helpful	29	51.8

n = 56

Table C-45: What was the primary benefit (if any) of having the RC visit you?

- A primary benefit of having the RC visit me was to have someone to talk to about coaching issues who could help me problem solve these issues.
- They can help answer questions that I have and give advice on situations within the building.
- Having contact from a regional standpoint and discussion of problems that had occurred over the time span since their last visit.
- I was able to share what I was doing in my building at the time. We discussed ideas that I had for the future and “XXXX” and I practiced the coaching model. She coached me through a real problem situation involving my school.
- I was able to ask professional advice from an educator who was neutral to the situation.
- Greatly beneficial in both individual and small group settings. Sharing information, offering feedback on ideas, budget expenditures, facilitating planning, reflection, and problem-solving (excellent cognitive coach modeling and role)...She is encouraging and has materials and resources to share. We have shared a book study, new games and manipulatives, ideas for family nights and parent involvement. She came to an after-school P.D. hour as a co-presenter with me. Her cordial and calming personality a great asset! She blends well with staff as a supportive and "non-threatening" specialist. “XXXX” is fabulous!!
- Contact and support
- Resources
- I felt supported by the RC visit. We were able to discuss a number of mathematics related issues. When my RC was here, they did not rush. They always stayed as long as we had something to discuss.
- Face to face support, talk in confidential manner
- Support me with ideas for activities or solving problems
- She provided support by answering questions, sharing resources, and model Cognitive CoachingSM.
- Her knowledge of available resources.
- To clarify, answer questions, address concerns and provide encouragement
- It was good to talk to someone who understood what I was doing.
- Increased communication is always a must for any program.
- I loved having someone to discuss issues with that I could confide in and ask questions of.
- Discuss parts of the coaching program
- Just to listen to me was very beneficial. A sounding board is important when you are doing this position.
- Someone to bounce ideas off of.
- She coaches me, like I coach my teachers.
- The one to one was nice. It allowed me to vent.
- Letting the people I work with get to know her and bouncing ideas off of her.
- To reflect on what I had been doing with coaching.
- “XXXX” was someone that I could discuss what I had been doing with and feel more confident that I was doing the right thing,
- The primary benefit of having the RC visit is having someone to discuss coaching concerns with.
- Someone to talk to and bounce ideas off of and someone to encourage you.
- Someone to listen and bounce ideas off of and provide encouragement.
- She had great ideas to help us where she worked with the intervention programs also.
- To show the RC some of the things that I was doing.
- Someone to discuss my present situation with, bounce ideas off of and feel comfortable with the level of confidentiality and expertise of advice.
- Personal, one-on-one contact to address issues, we practiced coaching conversations on each other
- Discussing coaching aspects Practicing coaching conversations
- We practiced Cognitive CoachingSM.
- To assist with practicing and re-fining my coaching skills.

- She observed a Cognitive CoachingSM conversation and provided immediate feedback.
- Affirm what I am doing.
- to let me feel more confident in the things I was doing
- She gave me positive feedback on my coaching efforts, and kept us up to date. Nice to have someone to vent to and to share success.
- She met with my principal and it made me feel like someone validated my job.
- Help with planning PD's and discussing how students learn math.
- "XXXX" helped with professional development for our staff. She also organized meeting with coaches in my area to discuss teaching strategies, resources, etc.
- "XXXX" helped clarify how the Center for Mathematics and Northern University worked.
- Answering any questions that I may have and helping with a math grant.
- help answer questions I had about the coaching program
- Staying focused
- She teaches in a nearby city but we usually just communicate through email or we will see each other at PD opportunities in our area and discuss issues. I really haven't had a need for her to visit.
- I really did not find it beneficial because I work with "XXXX" teachers. Her area of expertise is with "XXXX" students.
- It could have been more beneficial had I been informed of what the day and time the RC was coming so I could get my questions and information together and be better prepared.
- I feel that the RC was a person that was unavailable to me as a coach. I feel that the Centra group, especially "XXXX" was of greater use.
- None
- Unknown.
- I don't feel the RC visit was useful.
- none, "XXXX" only talked about "XXXX" and what "XXXX" had accomplished.

Table C-46: Other comments about the regional coordinators?

- My RC was very responsive to my needs and always followed up with any requests or questions I had.
- Great idea to support the growth of the coach!!!
- Enjoyed and appreciated the support
- I appreciate their support and knowledge of resources.
- "XXXX" is a very good listener and has been sensitive to my needs as a coach.
- Very cooperative and easy to work with, great resource for coaches
- Good
- "XXXX" has always been there to help me through situations. She has given me support and resources when I asked. We ("XXXX" and I and other coaches) have met for dinner to discuss coaching.
- Supportive
- "XXXX" was fantastic as RC and Centa group leader!
- I value their support and suggestions! They offer a wealth of resources and experience to help me. I think they are invaluable to the program.
- My regional coordinator is wonderful. She is very supportive and I can go to her for anything.
- Good to have a connection.
- My RC is great.
- Very personable and lovable.
- The regional coordinator seems to have a genuine love for mathematics and enjoys interaction with the coach and students.
- It would be much more lonely with out an RC.
- It would be much lonelier without one.
- Very easy to approach, knowledgeable
- A great lady. She was wonderful!!!
- Great job! A pleasure to work with!
- Having the regional coordinators is the most valuable part of this program.
- Always positive and helpful.
- One of the best activities we did in my area was have a regular coach "cadre" meeting. 4-5 coaches in my area met for a few hours about once a month and talked about math coach issues, curriculum, etc. My RC also provided support for professional development, came to our school Family Math Night, and provided any type of support I asked of her. She was a tremendous asset.
- I was lucky with who my RC was.
- "XXXX" was easy to talk to and let me know that "XXXX" was only a phone call away.
- Very kind and caring - supportive!!!
- My RC was very good. She listened to me and kept me informed on what others were doing. She also helped our school with a PD.
- My regional coordinator helped me gather resources needed and was a sounding board for my new ideas.

- It would be nice to have one hired prior to the school year.
- Sometimes the visits feel forced...no real purpose...
- "XXXX" did not even attend the training sessions. I feel that she was not truly qualified or so it appeared.
- It would be beneficial to all involved if they gave a heads up to the visits.

Table C-47: Please estimate how many times in the past year you contacted a KCM staff member?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
0	4	7.3
1	5	9.1
2	6	10.9
3	7	12.7
4	6	10.9
5	8	14.5
6	2	3.6
9	1	1.8
10	6	10.9
12	1	1.8
13	1	1.8
17	1	1.8
20	3	5.5
25	4	7.3

n = 55

Table C-48: Overall, did the KCM staff member respond to you/your need in a timely manner?
(Spring 2008 Survey, All Coaches)

	Frequency	Percent
No	1	1.9
Yes	51	98.1

n = 52

Table C-49: Overall, was the KCM staff member helpful in responding to your needs as a Coach?

(Spring 2008 Survey, All Coaches)

	Frequency	Percent
No not at all helpful	0	0.0
Somewhat helpful	2	3.8
Yes helpful	51	96.2

n = 53

Table C-50: Coaches' Comments Regarding KCM Staff

- The staff has been very responsive to any requests or questions I have had concerning coaching in general and the KCM Coaching program.
- The KCM staff is extremely helpful. Any time I had a need, I was responded to the day of the request. The staff at KCM is wonderful. I have truly enjoyed working with them and for them. The state of Kentucky is very fortunate to have KCM and a math coaching program.
- Outstanding, well qualified, highly respected
- Good
- I think the training they have provided for us has been excellent, and most of the questions I would have asked have been answered in our follow-up meeting and through emails to the coaches.
- "XXXX" and "XXXX" are both helpful.
- They are terrific!
- You do a great job, keep it up.
- They are all wonderful - very supportive and helpful.
- They were always willing to help and provide assistance.
- Very professional, supportive
- They have always been helpful.
- Very pleasant
- I feel that the persons from KCM are very helpful, I consider them to be my friends, my colleagues. They are always helpful providing me with the information I need in a timely fashion.
- Very helpful, kind, and patient
- When I had questions concerning materials to purchase, I was given help immediately.
- The staff was very helpful any time that I contacted them. They are a great asset to the program.
- I contacted the staff regarding interviews for the new director- not for any need as a coach. My visiting Regional coordinator or "XXXX" can take care of my coaching needs.

- Not as good as I had hoped.
- I would like to have a better handle on the budget issues. This has been a problem. I did not spend all of the allotted money due to not having enough flexibility. I would like to get a monthly report from KCM sent electronically to me so I can keep up with my account. I have a much better understanding of how the money works now.
- Was disappointed when I missed the February coaching training at WKU and left message and was never contacted by "XXXX" or "XXXX"

- "XXXX" is a staff member at KCM. I am not sure if I answered the above two questions correctly because of that.

Table C-51: Were CENTRA meetings helpful in assisting you with your duties as a Coach?
(Spring 2008 Survey, All Grade Levels)

	Frequency	Percent
No not at all helpful	3	5.5
Somewhat helpful	27	49.1
Yes helpful	25	45.5

n = 55

Table C-52: Were CENTRA meetings helpful in assisting you with your duties as a Coach? Cohort 1
(Spring 2008 Survey, Elementary School Coaches)

	Frequency	Percent
No not at all helpful	0	0.0
Somewhat helpful	11	47.8
Yes helpful	12	52.2

n = 23

Table C-53: Were CENTRA meetings helpful in assisting you with your duties as a Coach? Cohort 2
(Spring 2008 Survey, Middle School and High School Coaches)

	Frequency	Percent
No not at all helpful	3	9.4
Somewhat helpful	16	50.0
Yes helpful	13	40.6

n = 32

Table C-54: Were CENTRA meetings helpful in assisting you with your duties as a Coach? Elementary Coaches
(Spring 2008 Survey, All Cohorts)

	Frequency	Percent
No not at all helpful	2	7.7
Somewhat helpful	13	50.0
Yes helpful	11	42.3

n = 26

Table C-55: Were CENTRA meetings helpful in assisting you with your duties as a Coach? Middle & High School Coaches
(Spring 2008 Survey, All Cohorts)

	Frequency	Percent
No not at all helpful	1	3.4
Somewhat helpful	14	48.3
Yes helpful	14	48.3

n = 29

Table C-56: What was the primary benefit, if any, of these CENTRA meetings?

- Resources other teachers talked about
- The primary benefit of the CENTRA meetings has been networking and sharing with other coaches.
- The primary benefit was being able to share ideas, gain ideas, and problem solve with someone doing the same job. I thought the CENTRA meetings were very beneficial.
- It gave an opportunity to express concerns and receive ideas on how to handle the concerns. It was also another professional development opportunity (i.e. book studies, article discussion, etc.)
- Getting to talk to other coaches.
- To discuss the needs of middle school mathematics. It was nice to form this network of colleagues that could give suggestions, offer advice or resources.
- Being about to share ideas and solve problems of similar nature.
- Verbal support, updates and information, shared resources
- Some good discussion about current research, and help with coaching matters.
- contact and questions
- The primary benefit of the CENTRA meetings is that we, the coaches and our CENTRA leader, get to discuss problems and successes in our coaching, and to share resources.
- Discussion with other coaches
- My CENTRA leader has done an excellent job allowing the coaches to choose topics for discuss that we found beneficial to our positions within our districts. We have practiced Cognitive CoachingSM techniques on-line as well as discussed best practices to use in the classrooms.
- connection with other math teachers / sharing information and ideas
- Weekly contact with other middle school math coaches was invaluable. Our group communicates beyond the Centra meetings with activities, resources, etc. We had many great ideas shared and book studies were helpful.
- I enjoyed learning from the other coaches. I am a sophomore coach that was matched with freshmen coaches. I never would have known it was their first year. I learned so much from them and I hope they learned from me as well.
- Talking to other coaches, researching ideas, getting info from “XXXX”.
- Sharing problems and solutions with other coaches.
- Being able to interact with my coaching counterparts.
- Talking with other coaches.
- Opportunity to ask questions, hear how others are doing in their work.
- Discussing and bouncing off ideas with other coaches.
- Sharing resources is helpful
- Being able to talk with other coaches across the state and find out they were often having the same problems you were.
- New resources, lessons, background info, etc.
- The benefit of the Centra meetings was to learn what others are doing in their schools. I also enjoyed the book studies.
- sharing concerns, ideas that are helpful,
- being able to learn from other coaches who had been where I was currently.
- To discuss successful instructional strategies.
- I loved having the conversation, support, and help from my Centra group. My Centra group was the best! We even presented at the KTLC as a Centra group plus a couple of other people.
- Sharing ideas
- Dependable, weekly peer support for questions/problems; lively energizing exchanges with very smart math-lovers; shared resources verbally and electronically; “XXXX” was a committed and organized leader who facilitated our formal and informal agendas skillfully. Reassuring, enjoyable, motivating hour with fun, caring professionals!!
- I was able to discuss problems that were occurring during my coaching sessions and get help in solving them. I also was able to get some help with locating new ideas that I was able to share with the teachers I am coaching.

- To see what other coaches were doing.
- We had a book study. We took portions of the book to report on, so it was helpful learning about the whole book in a short period of time. Also, we were given information concerning conferences, etc.
- Hearing peers that were having the same successes and failure that I was struggling with!!!
- I was able to communicate with other math coaches and the RC. Helpful comments and resources were shared.
- Sharing of resources and experiences. Knowing that others have gone through or presently experiencing the same problems as a coach that I have.
- I think after our group set goals for us, the meetings were more beneficial. We used the time to catch each other up on what we were doing and what strategies, techniques, etc. worked for us.
- Sharing coaching experiences, resources, instructional strategies, and participating in book studies.
- It was nice to know that other coaches were facing the same situations that I was.
- Help to build relationships with other coaches (support system)

- Book talk on formative assessments
- Share information, book study.
- Book study was helpful but too time-consuming. Centra meetings should be kept to 45 minute maximum. Many of our meetings went over 60 min. Conversation was not engaging, rather it seemed like we were trying to fill time.

- I would have liked for there to have been time in the meetings for us to talk to each other about what we are doing and to get ideas from each other.
- I was never able to participate.
- None - mine this year was more work than necessary. Last years discussion format was more helpful than this year. This year the "homework" was not beneficial and was busy work rather than meaningful to my job.
- I liked the information but the weekly meetings were too much. Not many people can stop what they are doing to attend a meeting.
- As always-time
- They were not.

Table C-57: Coaching Environment & Climate
Respondents' agreement with the following statements
 (Spring 2008, All Coaches, All Grade Levels)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
With each specific teacher, I was able to coach them during the planning of a lesson or event.	.0	21.1	7.0	61.4	10.5	3.61 (.940)	57
With each specific teacher, I was able to observe the planned lesson or event.	.0	21.1	14.0	50.9	14.0	3.58 (.981)	57
With each specific teacher, I was able to coach them by reflecting about the lesson or event.	.0	21.4	16.1	51.8	10.7	3.52 (.953)	56
At my school (or schools), we now have a well established community of coaches.	7.0	40.4	14.0	28.1	10.5	2.95 (1.187)	57
I have been able to offer effective professional development for my coachees.	.0	8.8	10.5	63.2	17.5	3.89 (.795)	57

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-58: Coaching Environment & Climate
Respondents' agreement with the following statements
 (Spring 2008, Cohort 1, All Grade Levels)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
With each specific teacher, I was able to coach them during the planning of a lesson or event.	.0	12.5	8.3	62.5	16.7	3.83 (.868)	24
With each specific teacher, I was able to observe the planned lesson or event.	.0	16.7	16.7	45.8	20.8	3.71 (.999)	24
With each specific teacher, I was able to coach them by reflecting about the lesson or event.	.0	17.4	17.4	52.2	13.0	3.61 (.941)	23
At my school (or schools), we now have a well established community of coaches.	.0	29.2	16.7	37.5	16.7	3.42 (1.100)	24
I have been able to offer effective professional development for my coachees.	.0	.0	8.3	66.7	25.0	4.17 (.565)	24

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-59: Coaching Environment & Climate
Respondents' agreement with the following statements
 (Spring 2008, Cohort 2, All Grade Levels)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
With each specific teacher, I was able to coach them during the planning of a lesson or event.	.0	27.3	6.1	60.6	6.1	3.45 (.971)	33
With each specific teacher, I was able to observe the planned lesson or event.	.0	24.2	12.1	54.5	9.1	3.48 (.972)	33
With each specific teacher, I was able to coach them by reflecting about the lesson or event.	.0	24.2	15.2	51.5	9.1	3.45 (.971)	33
At my school (or schools), we now have a well established community of coaches.	12.1	48.5	12.1	21.2	6.1	2.61 (1.144)	33
I have been able to offer effective professional development for my coachees.	.0	15.2	12.1	60.6	12.1	3.70 (.883)	33

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-60: Coaching Environment & Climate
Respondents' agreement with the following statements
 (Spring 2008, All Cohorts, Elementary Coaches)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
With each specific teacher, I was able to coach them during the planning of a lesson or event.	.0	11.1	7.4	70.4	11.1	3.81 (.786)	27
With each specific teacher, I was able to observe the planned lesson or event.	.0	11.1	11.1	63.0	14.8	3.81 (.834)	27
With each specific teacher, I was able to coach them by reflecting about the lesson or event.	.0	22.2	22.2	44.4	11.1	3.44 (.974)	27
At my school (or schools), we now have a well established community of coaches.	.0	40.7	14.8	33.3	11.1	3.15 (1.099)	27
I have been able to offer effective professional development for my coachees.	.0	7.4	7.4	70.4	14.8	3.93 (.730)	27

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-61: Coaching Environment & Climate
Respondents' agreement with the following statements
 (Spring 2008, All Cohorts, Middle & High School Coaches)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
With each specific teacher, I was able to coach them during the planning of a lesson or event.	.0	30.0	6.7	53.3	10.0	3.43 (1.040)	30
With each specific teacher, I was able to observe the planned lesson or event.	.0	30.0	16.7	40.0	13.3	3.37 (1.066)	30
With each specific teacher, I was able to coach them by reflecting about the lesson or event.	.0	20.7	10.3	58.6	10.3	3.59 (.946)	29
At my school (or schools), we now have a well established community of coaches.	13.3	40.0	13.3	23.3	10.0	2.77 (1.251)	30
I have been able to offer effective professional development for my coachees.	.0	10.0	13.3	56.7	20.0	3.87 (.860)	30

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-62: Are you participating in the Coaching Program next year?
(Spring 2008 Survey, All Coaches)

	No %	Yes %	Count
Cohort 1	39.1	60.9	23
Cohort 2	51.5	48.5	33

n = 56

If "NO," why are you/is your school not participating?

- No school support or money.
- The math coaching program was originally a two year commitment. My principal did not want me to be a math coach a third year due to the amount of time that I am out of the building for trainings. These math coaching training sessions in combination with others I must attend cause me to be out of the building more than my principal would like. I will still be coaching teachers next year, however.
- need more time in the classroom
- No funding
- At this point because of budget cut backs the coaching position has been eliminated.
- Not valued by my principal.
- Budget cuts
- There is so much more we could be doing as coaches than attending Cognitive Coach training. I just don't think we get enough "bang for our buck". Our district knows what we need. It isn't always feasible to have a coaching conversation to fix what needs fixing. I think too much emphasis is placed on Cognitive CoachingSM, even though it is a good program, we need other resources. The coachees resent us for all the work, pre and post tests, surveys, etc., that they must do for us to participate in this program.
- No funding other wise they would
- Lack of funding and coach is no longer interested
- The school must cut positions. There is no money to pay the salary of a coach. The teachers, however, have said they are still coming to me for help, I'll just be teaching a full load along with them
- The current principal was fired by the superintendent who is leaving. Even though I will probably be back next year as a coach in the school, there was no one to go to in order to get my application to KCM in by May 30.
- I have taken on another duty at my school which will prevent me from being a Math Coach.
- I will be taking on extra duties as the Gifted & Talented teacher at 2 middle schools where I will serve 200 students.
- Funding issues
- We need a person who can spend some time with math interventions. We feel that the Cognitive CoachingSM part of the training is not something that can be effectively implemented in our school.
- I do not feel that I can implement the coaching strategies such as the conversations effectively in my district since I am a district-wide coach and service a large number of schools. I am going to be a curriculum coach for the district but not with KCM.

- The training is too far away. I am not willing to travel to NKU.
- Lack of funding
- My school does not value the program and removed it from the budget.
- I do not have the time to give to the program to be effective like I would have wanted. My district did not allow me to do half time; I had to continue in my full time job. They have now decided that it was too much for me to do and there is no one currently employed in the district that would be a candidate for the program. Hopefully in the future when my staff matures--I can send someone.
- My responsibilities/duties as Staff Developer at the high school consist of several content areas, curriculum development and assessment.
- I don't feel that I can meet the needs of our staff and fulfill the requirements of Cognitive CoachingSM. There just isn't enough time to effectively do Cognitive CoachingSM. I wish there was more training in implementing math strategies and more about how students learn mathematics. I think this is information I could get to the staff in a reasonable amount of time.
- They have not made up their minds yet. They are leaning toward yes.
- Lack of funding
- Funding mostly. We have to begin a Response to Intervention program in our school and we can't hire anyone just for that program. I'll be the coordinator of the RTI program. Time is also a factor for the program this year. It seemed that if I had a meeting scheduled, the principal or assistant principal would call a meeting so the coachees had to attend the 2nd meeting that was scheduled rather than mine. We had scheduling conflicts a number of times.
- Budget cuts.

Table C-63: Coach Quilt Survey, Fall 2007
(Includes All Coaches in Cohort 1)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I have a greater understanding of the relationship between questioning practices in the classroom and student learning outcomes.	4.4	2.2	6.7	66.7	20.0	3.96 (.878)	45
I can effectively communicate the characteristics of "effective classroom questioning" to teachers in my school/district.	.0	2.2	13.3	66.7	17.8	4.00 (.640)	45
I can identify teacher behaviors that limit effective classroom questioning.	.0	.0	2.3	63.6	34.1	4.32 (.518)	44
I can communicate to other teachers how the asking of classroom questions affects a students' readiness to respond.	.0	.0	4.4	75.6	20.0	4.16 (.475)	45
I am able to effectively use the verbal techniques for eliciting student responses to questions that were presented in this program.	2.3	.0	20.5	61.4	15.9	3.89 (.754)	44
I am able to effectively use the nonverbal techniques for eliciting student responses to questions that were presented in this program.	2.2	.0	35.6	48.9	13.3	3.71 (.787)	45
I have greater understanding of how my reaction to student responses affects their responding patterns.	6.7	.0	11.1	57.8	24.4	3.93 (.986)	45
I can accurately assess my own personal questioning practices.	.0	.0	6.7	68.9	24.4	4.18 (.535)	45

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table C-64: Coach Quilt Survey, Fall 2007
(Includes All Coaches in Cohort 1)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Mean Score (SD)	Count
I can accurately assess the personal questioning practices of other teachers.	.0	.0	8.9	64.4	26.7	4.18 (.576)	45
I feel better prepared to function as a mathematics coach for my school.	4.4	.0	13.3	48.9	33.3	4.07 (.939)	45
I will be able to relay the strategies presented in this professional development program to other teachers.	.0	4.4	11.1	57.8	26.7	4.07 (.751)	45
I have better understanding of what constitutes the effective questioning of students in a classroom setting.	4.4	2.2	6.7	66.7	20.0	3.96 (.878)	45
I have greater knowledge of effective questioning techniques and practices that encourage student responses.	4.4	2.2	6.7	64.4	22.2	3.98 (.892)	45
I have the knowledge to teach students how to ask questions effectively.	.0	2.2	15.6	60.0	22.2	4.02 (.690)	45
I was pleased with the overall quality of the QUILT professional development program.	4.4	4.4	6.7	46.7	37.8	4.09 (1.019)	45

*Mean Score is calculated on a 5 point scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Appendix D: Coachee Survey Data

**Table D-1: Coachees Evaluation Survey, Cohort 1-2,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	1.5	4
Less than once a month	17.4	46
At least once a month	25.0	66
At least once every two weeks	18.6	49
Once a week	16.3	43
Two or more times a week	21.2	56
Total		264

**Table D-2: Coachees Evaluation Survey, Cohort 1,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	1.8	2
Less than once a month	14.0	16
At least once a month	21.9	25
At least once every two weeks	14.9	17
Once a week	21.9	25
Two or more times a week	25.4	29
Total		114

**Table D-3: Coachees Evaluation Survey, Cohort 2,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	1.3	2
Less than once a month	20.1	30
At least once a month	26.8	40
At least once every two weeks	21.5	32
Once a week	12.1	18
Two or more times a week	18.1	27
Total		149

**Table D-4: Coachees Evaluation Survey, Cohort 1-2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	0.0	0
Less than once a month	19.1	21
At least once a month	30.0	33
At least once every two weeks	22.7	25
Once a week	13.6	15
Two or more times a week	14.5	16
Total		110

**Table D-5: Coachees Evaluation Survey, Cohort 1-2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	2.6	1
Less than once a month	18.4	7
At least once a month	21.1	8
At least once every two weeks	15.8	6
Once a week	23.7	9
Two or more times a week	18.4	7
Total		38

**Table D-6: Coachees Evaluation Survey, Cohort 1-2,
High School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	1.3	1
Less than once a month	15.2	12
At least once a month	17.7	14
At least once every two weeks	17.7	14
Once a week	15.2	12
Two or more times a week	32.9	26
Total		79

**Table D-7: Coachees Evaluation Survey, Cohort 1-2,
By Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Percent	Count	Percent	Count	Percent	Count
I did not meet with my coach	0.0	0	2.6	1	1.3	1
Less than once a month	19.1	21	18.4	7	15.2	12
At least once a month	30.0	33	21.1	8	17.7	14
At least once every two weeks	22.7	25	15.8	6	17.7	14
Once a week	13.6	15	23.7	9	15.2	12
Two or more times a week	14.5	16	18.4	7	32.9	26
Total		110		38		79

**Table D-8: Coachees Evaluation Survey, Cohort 1,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	0.0	0
Less than once a month	21.4	9
At least once a month	28.6	12
At least once every two weeks	21.4	9
Once a week	14.3	6
Two or more times a week	14.3	6
Total		42

**Table D-9: Coachees Evaluation Survey, Cohort 1,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	4.8	1
Less than once a month	23.8	5
At least once a month	19.0	4
At least once every two weeks	4.8	1
Once a week	38.1	8
Two or more times a week	9.5	2
Total		21

**Table D-10: Coachees Evaluation Survey, Cohort 1,
High School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	0.0	0
Less than once a month	5.6	2
At least once a month	13.9	5
At least once every two weeks	13.9	5
Once a week	16.7	6
Two or more times a week	50.0	18
Total		36

**Table D-11: Coachees Evaluation Survey, Cohort 2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	0.0	0
Less than once a month	17.6	12
At least once a month	30.9	21
At least once every two weeks	23.5	16
Once a week	13.2	9
Two or more times a week	14.7	10
Total		68

**Table D-12: Coachees Evaluation Survey, Cohort 2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	0.0	0
Less than once a month	11.8	2
At least once a month	23.5	4
At least once every two weeks	29.4	5
Once a week	5.9	1
Two or more times a week	29.4	5
Total		17

**Table D-13: Coachees Evaluation Survey, Cohort 2,
High School Grade Level, Year 2007-8
(Spring 2008)**

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	Percent	Count
I did not meet with my coach	2.3	1
Less than once a month	23.3	10
At least once a month	20.9	9
At least once every two weeks	20.9	9
Once a week	14.0	6
Two or more times a week	18.6	8
Total		43

Table D-14: Coachees Evaluation Survey, by Cohort and by Grade Level, Year 2007-8
(Spring 2008)

How often (on average) did you meet with your school's mathematics coach during the 2007-8 school year?	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Percent	Count	Percent	Count	Percent	Count
Cohort 1						
I did not meet with my coach	0.0	0	4.8	1	0.0	0
Less than once a month	21.4	9	23.8	5	5.6	2
At least once a month	28.6	12	19.0	4	13.9	5
At least once every two weeks	21.4	9	4.8	1	13.9	5
Once a week	14.3	6	38.1	8	16.7	6
Two or more times a week	14.3	6	9.5	2	50.0	18
Total		42		21		36
Cohort 2						
I did not meet with my coach	0.0	0	0.0	0	2.3	1
Less than once a month	17.6	12	11.8	2	23.3	10
At least once a month	30.9	21	23.5	4	20.9	9
At least once every two weeks	23.5	16	29.4	5	20.9	9
Once a week	13.2	9	5.9	1	14.0	6
Two or more times a week	14.7	10	29.4	5	18.6	8
Total		68		17		43

**Table D-15: Coachees Evaluation Survey, Cohort 1-2,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	77
Occasionally	7.5	31.5	61.0	.0	146
Frequently	.0	13.3	86.7	.0	30
Instructional Strategies					
Never	.0	.0	.0	100.0	5
Occasionally	5.4	46.8	47.7	.0	111
Frequently	.0	9.6	90.4	.0	136
Assessment Strategies					
Never	.0	.0	.0	100.0	23
Occasionally	3.3	40.5	56.2	.0	121
Frequently	.9	8.4	90.7	.0	107
Mathematics Content					
Never	.0	.0	.0	100.0	15
Occasionally	6.7	40.0	53.3	.0	120
Frequently	.0	8.6	91.4	.0	116

**Table D-16: Coachees Evaluation Survey, Cohort 1,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	32
Occasionally	1.6	25.8	72.6	.0	62
Frequently	.0	21.4	78.6	.0	14
Instructional Strategies					
Never	.0	.0	.0	100.0	1
Occasionally	.0	41.3	58.7	.0	46
Frequently	.0	6.5	93.5	.0	62
Assessment Strategies					
Never	.0	.0	.0	100.0	7
Occasionally	.0	30.6	69.4	.0	49
Frequently	.0	5.7	94.3	.0	53
Mathematics Content					
Never	.0	.0	.0	100.0	4
Occasionally	2.1	37.5	60.4	.0	48
Frequently	.0	3.6	96.4	.0	56

**Table D-17: Coachees Evaluation Survey, Cohort 2,
All Grade Levels, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	45
Occasionally	12.0	34.9	53.0	.0	83
Frequently	.0	6.3	93.8	.0	16
Instructional Strategies					
Never	.0	.0	.0	100.0	4
Occasionally	9.2	50.8	40.0	.0	65
Frequently	.0	12.3	87.7	.0	73
Assessment Strategies					
Never	.0	.0	.0	100.0	16
Occasionally	5.6	47.2	47.2	.0	72
Frequently	1.9	11.3	86.8	.0	53
Mathematics Content					
Never	.0	.0	.0	100.0	11
Occasionally	9.7	41.7	48.6	.0	72
Frequently	.0	13.6	86.4	.0	59

**Table D-18: Coachees Evaluation Survey, Cohort 1,
Elementary Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	13
Occasionally	.0	32.1	67.9	.0	28
Frequently	.0	.0	100.0	.0	1
Instructional Strategies					
Never	.0	.0	.0	100.0	1
Occasionally	.0	33.3	66.7	.0	18
Frequently	.0	.0	100.0	.0	23
Assessment Strategies					
Never	.0	.0	.0	100.0	3
Occasionally	.0	30.4	69.6	.0	23
Frequently	.0	6.3	93.8	.0	16
Mathematics Content					
Never	.0	.0	.0	.0	0
Occasionally	.0	35.0	65.0	.0	20
Frequently	.0	.0	100.0	.0	22

**Table D-19: Coachees Evaluation Survey, Cohort 2,
Elementary Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	22
Occasionally	7.9	39.5	52.6	.0	38
Frequently	.0	14.3	85.7	.0	7
Instructional Strategies					
Never	.0	.0	.0	100.0	2
Occasionally	3.7	59.3	37.0	.0	27
Frequently	.0	13.2	86.8	.0	38
Assessment Strategies					
Never	.0	.0	.0	100.0	7
Occasionally	5.7	51.4	42.9	.0	35
Frequently	.0	8.3	91.7	.0	24
Mathematics Content					
Never	.0	.0	.0	100.0	8
Occasionally	.0	48.1	51.9	.0	27
Frequently	.0	12.5	87.5	.0	32

**Table D-20: Coachees Evaluation Survey, Cohort 1,
Middle School Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	6
Occasionally	14.3	.0	85.7	.0	7
Frequently	.0	40.0	60.0	.0	5
Instructional Strategies					
Never	.0	.0	.0	.0	0
Occasionally	.0	54.5	45.5	.0	11
Frequently	.0	.0	100.0	.0	8
Assessment Strategies					
Never	.0	.0	.0	100.0	2
Occasionally	.0	44.4	55.6	.0	9
Frequently	.0	.0	100.0	.0	8
Mathematics Content					
Never	.0	.0	.0	100.0	3
Occasionally	11.1	55.6	33.3	.0	9
Frequently	.0	.0	100.0	.0	7

**Table D-21: Coachees Evaluation Survey, Cohort 2,
Middle School Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	2
Occasionally	16.7	33.3	50.0	.0	12
Frequently	.0	.0	100.0	.0	3
Instructional Strategies					
Never	.0	.0	.0	100.0	0
Occasionally	3.7	59.3	37.0	.0	6
Frequently	.0	13.2	86.8	.0	10
Assessment Strategies					
Never	.0	.0	.0	100.0	1
Occasionally	20.0	20.0	60.0	.0	5
Frequently	.0	11.1	88.9	.0	9
Mathematics Content					
Never	.0	.0	.0	.0	0
Occasionally	.0	75.0	25.0	.0	4
Frequently	.0	18.2	81.8	.0	11

**Table D-22: Coachees Evaluation Survey, Cohort 1,
High School Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	11
Occasionally	.0	15.8	84.2	.0	19
Frequently	.0	20.0	80.0	.0	5
Instructional Strategies					
Never	.0	.0	.0	.0	0
Occasionally	.0	46.2	53.8	.0	13
Frequently	.0	9.1	90.9	.0	22
Assessment Strategies					
Never	.0	.0	.0	100.0	2
Occasionally	.0	18.2	81.8	.0	11
Frequently	.0	9.1	90.9	.0	22
Mathematics Content					
Never	.0	.0	.0	100.0	1
Occasionally	.0	26.7	73.3	.0	15
Frequently	.0	11.1	88.9	.0	18

**Table D-23: Coachees Evaluation Survey, Cohort 2,
High School Coachees, Year 2007-8
(Spring 2008)**

How often did you talk with your coach about this topic?	How helpful were these conversations?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Classroom Management					
Never	.0	.0	.0	100.0	15
Occasionally	14.3	23.8	61.9	.0	21
Frequently	.0	.0	100.0	.0	4
Instructional Strategies					
Never	.0	.0	.0	100.0	1
Occasionally	3.7	59.3	37.0	.0	20
Frequently	.0	13.2	86.8	.0	18
Assessment Strategies					
Never	.0	.0	.0	100.0	5
Occasionally	.0	57.9	42.1	.0	19
Frequently	6.3	12.5	81.3	.0	16
Mathematics Content					
Never	.0	.0	.0	100.0	1
Occasionally	10.3	37.9	51.7	.0	29
Frequently	.0	10.0	90.0	.0	10

Table D-24: Coachees Evaluation Survey, Cohort 1-2, All Coachees, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	4.6	9.2	15.4	45.0	25.8	260
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	3.9	6.9	13.5	49.0	26.6	259
5. Increase my mathematical content knowledge.	6.6	14.3	20.5	39.0	19.7	259
6. Increase my knowledge of the Kentucky Core Content.	3.9	11.3	19.1	43.4	22.3	256
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	4.7	11.3	17.9	44.0	22.2	257
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	3.5	8.6	13.6	49.4	24.9	257

Table D-25: Coachees Evaluation Survey, Cohort 1, All Grade Levels, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	1.8	8.9	12.5	50.0	26.8	112
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	.9	6.3	11.6	50.9	30.4	112
5. Increase my mathematical content knowledge.	3.6	10.8	18.0	43.2	24.3	111
6. Increase my knowledge of the Kentucky Core Content.	1.8	8.2	13.6	47.3	29.1	110
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	2.7	8.2	12.7	51.8	24.5	110
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	.9	6.4	9.1	54.5	29.1	110

Table D-26: Coachees Evaluation Survey, Cohort 2, All Grade Levels, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	6.8	9.5	17.0	41.5	25.2	147
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	6.2	7.5	15.1	47.3	24.0	146
5. Increase my mathematical content knowledge.	8.8	17.0	22.4	35.4	16.3	147
6. Increase my knowledge of the Kentucky Core Content.	5.5	13.8	23.4	40.0	17.2	145
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	6.2	13.7	21.9	37.7	20.5	146
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	5.5	10.3	17.1	45.2	21.9	146

Table D-27: Coachees Evaluation Survey, Cohort 1, Elementary, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	.0	4.8	4.8	54.8	35.7	42
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	.0	2.4	11.9	45.2	40.5	42
5. Increase my mathematical content knowledge.	.0	7.3	14.6	46.3	31.7	41
6. Increase my knowledge of the Kentucky Core Content.	.0	9.8	14.6	36.6	39.0	41
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	.0	9.5	9.5	42.9	38.1	42
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	.0	4.9	4.9	53.7	36.6	41

Table D-28: Coachees Evaluation Survey, Cohort 1, Middle School, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	5.0	15.0	20.0	45.0	15.0	20
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	.0	20.0	15.0	45.0	20.0	20
5. Increase my mathematical content knowledge.	10.0	20.0	20.0	30.0	20.0	20
6. Increase my knowledge of the Kentucky Core Content.	5.3	5.3	15.8	52.6	21.1	19
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	5.0	15.0	20.0	55.0	5.0	20
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	.0	10.5	10.5	68.4	10.5	19

Table D-29: Coachees Evaluation Survey, Cohort 1, High School, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	.0	11.1	13.9	47.2	27.8	36
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	.0	2.8	8.3	58.3	30.6	36
5. Increase my mathematical content knowledge.	2.8	11.1	13.9	50.0	22.2	36
6. Increase my knowledge of the Kentucky Core Content.	.0	8.3	11.1	61.1	19.4	36
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	2.9	5.9	11.8	55.9	23.5	34
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	.0	8.3	13.9	50.0	27.8	36

Table D-30: Coachees Evaluation Survey, Cohort 2, Elementary, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	7.4	5.9	11.8	45.6	29.4	68
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	6.0	4.5	16.4	46.3	26.9	67
5. Increase my mathematical content knowledge.	7.4	13.2	20.6	38.2	20.6	68
6. Increase my knowledge of the Kentucky Core Content.	7.4	10.3	27.9	33.8	20.6	68
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	4.5	13.4	22.4	37.3	22.4	67
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	4.5	10.4	16.4	44.8	23.9	67

Table D-31: Coachees Evaluation Survey, Cohort 2, Middle School, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	5.9	17.6	29.4	23.5	23.5	17
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	5.9	17.6	17.6	35.3	23.5	17
5. Increase my mathematical content knowledge.	5.9	35.3	11.8	23.5	23.5	17
6. Increase my knowledge of the Kentucky Core Content.	5.9	23.5	11.8	35.3	23.5	17
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	5.9	17.6	17.6	29.4	29.4	17
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	5.9	17.6	17.6	29.4	29.4	17

Table D-32: Coachees Evaluation Survey, Cohort 2, High School, Year 2007-8
My mathematics coach has provided information, resources, or materials that ...
 (Spring 2008)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
3. Increase my understanding of how students learn mathematics.	2.4	9.5	21.4	47.6	19.0	42
4. Increase my knowledge of effective instructional strategies for teaching mathematics.	2.4	9.5	14.3	54.8	19.0	42
5. Increase my mathematical content knowledge.	7.1	16.7	33.3	38.1	4.8	42
6. Increase my knowledge of the Kentucky Core Content.	.0	15.0	25.0	50.0	10.0	40
7. Allow me to better analyze student work for the purpose of identifying the mathematical skills the work represents.	4.8	11.9	28.6	40.5	14.3	42
8. Allow me to better <u>identify</u> best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	2.4	9.5	19.0	52.4	16.7	42

**Table D-33: Coachees Evaluation Survey, Cohort 1-2,
All Grade Levels, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	83
Occasionally	.8	29.5	69.8	.0	129
Frequently	.0	4.8	95.2	.0	42
Modeling					
Never	.0	.0	.0	100.0	60
Occasionally	1.5	38.2	60.3	.0	131
Frequently	1.6	1.6	96.8	.0	63
Planning Discussions					
Never	.0	.0	.0	100.0	29
Occasionally	4.8	50.0	45.2	.0	124
Frequently	.0	6.5	93.5	.0	93
Data Collection					
Never	.0	.0	.0	100.0	52
Occasionally	4.5	38.8	56.7	.0	134
Frequently	1.6	12.5	85.9	.0	64
Reflective Discussions					
Never	.0	.0	.0	100.0	34
Occasionally	5.0	49.2	45.8	.0	120
Frequently	.0	6.4	93.6	.0	94

**Table D-34: Coachees Evaluation Survey, Cohort 1,
All Grade Levels, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	30
Occasionally	.0	30.0	70.0	.0	60
Frequently	.0	.0	100.0	.0	21
Modeling					
Never	.0	.0	.0	100.0	22
Occasionally	1.7	25.4	72.9	.0	59
Frequently	.0	.0	100.0	.0	30
Planning Discussions					
Never	.0	.0	.0	100.0	7
Occasionally	.0	43.4	56.6	.0	53
Frequently	.0	4.3	95.7	.0	46
Data Collection					
Never	.0	.0	.0	100.0	18
Occasionally	5.0	30.0	65.0	.0	60
Frequently	3.1	15.6	81.3	.0	32
Reflective Discussions					
Never	.0	.0	.0	100.0	12
Occasionally	.0	37.8	62.2	.0	45
Frequently	.0	5.9	94.1	.0	51

**Table D-35: Coachees Evaluation Survey, Cohort 2,
All Grade Levels, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	53
Occasionally	1.5	29.4	69.1	.0	68
Frequently	.0	9.5	90.5	.0	21
Modeling					
Never	.0	.0	.0	100.0	38
Occasionally	1.4	48.6	50.0	.0	72
Frequently	3.1	3.1	93.8	.0	32
Planning Discussions					
Never	.0	.0	.0	100.0	22
Occasionally	8.6	55.7	35.7	.0	70
Frequently	.0	8.5	91.5	.0	47
Data Collection					
Never	.0	.0	.0	100.0	34
Occasionally	4.1	46.6	49.3	.0	73
Frequently	.0	9.4	90.6	.0	32
Reflective Discussions					
Never	.0	.0	.0	100.0	22
Occasionally	8.0	56.0	36.0	.0	75
Frequently	.0	7.1	92.9	.0	42

**Table D-36: Coachees Evaluation Survey, Cohort 1,
Elementary, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	9
Occasionally	.0	19.0	81.0	.0	21
Frequently	.0	.0	100.0	.0	11
Modeling					
Never	.0	.0	.0	100.0	5
Occasionally	.0	19.0	81.0	.0	21
Frequently	.0	.0	100.0	.0	15
Planning Discussions					
Never	.0	.0	.0	100.0	3
Occasionally	.0	38.9	61.1	.0	18
Frequently	.0	.0	100.0	.0	17
Data Collection					
Never	.0	.0	.0	100.0	7
Occasionally	4.5	27.3	68.2	.0	22
Frequently	.0	8.3	91.7	.0	12
Reflective Discussions					
Never	.0	.0	.0	100.0	5
Occasionally	.0	33.3	66.7	.0	18
Frequently	.0	11.1	88.9	.0	18

**Table D-37: Coachees Evaluation Survey, Cohort 1,
Middle School, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	10
Occasionally	.0	50.0	50.0	.0	10
Frequently	.0	.0	.0	.0	0
Modeling					
Never	.0	.0	.0	100.0	9
Occasionally	11.1	33.3	55.6	.0	9
Frequently	.0	.0	100.0	.0	2
Planning Discussions					
Never	.0	.0	.0	100.0	1
Occasionally	.0	60.0	40.0	.0	10
Frequently	.0	12.5	87.5	.0	8
Data Collection					
Never	.0	.0	.0	100.0	4
Occasionally	.0	45.5	54.5	.0	11
Frequently	25.0	25.0	50.0	.0	4
Reflective Discussions					
Never	.0	.0	.0	100.0	3
Occasionally	.0	66.7	33.3	.0	6
Frequently	.0	.0	100.0	.0	9

**Table D-38: Coachees Evaluation Survey, Cohort 1,
High School, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	9
Occasionally	.0	35.0	65.0	.0	20
Frequently	.0	.0	100.0	.0	7
Modeling					
Never	.0	.0	.0	100.0	7
Occasionally	.0	23.8	76.2	.0	21
Frequently	.0	.0	100.0	.0	8
Planning Discussions					
Never	.0	.0	.0	100.0	2
Occasionally	.0	42.1	57.9	.0	19
Frequently	.0	.0	100.0	.0	14
Data Collection					
Never	.0	.0	.0	100.0	6
Occasionally	5.0	25.0	70.0	.0	20
Frequently	.0	10.0	90.0	.0	10
Reflective Discussions					
Never	.0	.0	.0	100.0	3
Occasionally	.0	35.7	64.3	.0	14
Frequently	.0	5.6	94.4	.0	18

**Table D-39: Coachees Evaluation Survey, Cohort 2,
Elementary, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	21
Occasionally	.0	34.5	65.5	.0	29
Frequently	.0	12.5	87.5	.0	16
Modeling					
Never	.0	.0	.0	100.0	15
Occasionally	3.2	38.7	58.1	.0	31
Frequently	5.3	.0	94.7	.0	19
Planning Discussions					
Never	.0	.0	.0	100.0	6
Occasionally	9.1	60.6	30.3	.0	33
Frequently	.0	12.5	87.5	.0	24
Data Collection					
Never	.0	.0	.0	100.0	8
Occasionally	5.0	45.0	50.0	.0	40
Frequently	.0	.0	100.0	.0	17
Reflective Discussions					
Never	.0	.0	.0	100.0	7
Occasionally	6.1	54.5	39.4	.0	33
Frequently	.0	13.0	87.0	.0	23

**Table D-40: Coachees Evaluation Survey, Cohort 2,
Middle School, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	8
Occasionally	.0	50.0	50.0	.0	6
Frequently	.0	.0	100.0	.0	1
Modeling					
Never	.0	.0	.0	100.0	3
Occasionally	.0	45.5	54.5	.0	11
Frequently	.0	.0	100.0	.0	2
Planning Discussions					
Never	.0	.0	.0	100.0	2
Occasionally	.0	66.7	33.3	.0	6
Frequently	.0	14.3	85.7	.0	7
Data Collection					
Never	.0	.0	.0	100.0	5
Occasionally	.0	50.0	50.0	.0	6
Frequently	.0	33.3	66.7	.0	3
Reflective Discussions					
Never	.0	.0	.0	100.0	3
Occasionally	.0	57.1	42.9	.0	7
Frequently	.0	.0	100.0	.0	6

**Table D-41: Coachees Evaluation Survey, Cohort 2,
High School, Year 2007-8
(Spring 2008)**

Did your coach use any of the following techniques?	How helpful were these techniques?				Count
	Not Helpful %	Somewhat Helpful %	Helpful %	Not Applicable %	
Co-teaching					
Never	.0	.0	.0	100.0	18
Occasionally	4.8	9.5	85.7	.0	21
Frequently	.0	.0	100.0	.0	2
Modeling					
Never	.0	.0	.0	100.0	12
Occasionally	.0	56.5	43.5	.0	23
Frequently	.0	.0	100.0	.0	6
Planning Discussions					
Never	.0	.0	.0	100.0	7
Occasionally	13.6	45.5	40.9	.0	22
Frequently	.0	.0	100.0	.0	12
Data Collection					
Never	.0	.0	.0	100.0	11
Occasionally	.0	57.9	42.1	.0	19
Frequently	.0	20.0	80.0	.0	10
Reflective Discussions					
Never	.0	.0	.0	100.0	7
Occasionally	7.7	57.7	34.6	.0	26
Frequently	.0	.0	100.0	.0	8

**Table D-42: Coachees Evaluation Survey, Cohort 1-2,
All Grade Levels, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	10	3.8
Disagree	13	5.0
Neutral	41	15.8
Agree	125	48.1
Strongly Agree	71	27.3
Total	260	

**Table D-43: Coachees Evaluation Survey, Cohort 1,
All Grade Levels, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	2	1.8
Disagree	3	2.7
Neutral	10	9.0
Agree	53	47.7
Strongly Agree	43	38.7
Total	111	

**Table D-44: Coachees Evaluation Survey, Cohort 2,
All Grade Levels, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	8	5.4
Disagree	10	6.8
Neutral	31	20.9
Agree	71	48.0
Strongly Agree	28	18.9
Total	148	

**Table D-45: Coachees Evaluation Survey, Cohort 1-2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	4	3.7
Disagree	7	6.5
Neutral	15	13.9
Agree	49	45.4
Strongly Agree	33	30.6
Total	108	

**Table D-46: Coachees Evaluation Survey, Cohort 1-2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	0	0.0
Disagree	3	8.1
Neutral	7	18.9
Agree	19	51.4
Strongly Agree	8	21.6
Total	37	

**Table D-47: Coachees Evaluation Survey, Cohort 1-2,
High School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	2	2.6
Disagree	2	2.6
Neutral	13	16.7
Agree	37	47.4
Strongly Agree	24	30.8
Total	78	

**Table D-48: Coachees Evaluation Survey, Cohort 1-2,
By Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Strongly Disagree	4	3.7	0	0.0	2	2.6
Disagree	7	6.5	3	8.1	2	2.6
Neutral	15	13.9	7	18.9	13	16.7
Agree	49	45.4	19	51.4	37	47.4
Strongly Agree	33	30.6	8	21.6	24	30.8
Total	108		37		78	

**Table D-49: Coachees Evaluation Survey, Cohort 1,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	0	0.0
Disagree	0	0.0
Neutral	2	4.9
Agree	18	43.9
Strongly Agree	21	51.2
Total	41	

**Table D-50: Coachees Evaluation Survey, Cohort 1,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	0	0.0
Disagree	2	10.0
Neutral	2	10.0
Agree	12	60.0
Strongly Agree	4	20.0
Total	20	

**Table D-51: Coachees Evaluation Survey, Cohort 1,
High School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	1	2.9
Disagree	1	2.9
Neutral	3	8.6
Agree	15	42.9
Strongly Agree	15	42.9
Total	35	

**Table D-52: Coachees Evaluation Survey, Cohort 2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	4	6.0
Disagree	7	10.4
Neutral	13	19.4
Agree	31	46.3
Strongly Agree	12	17.9
Total	67	

**Table D-53: Coachees Evaluation Survey, Cohort 2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	0	0.0
Disagree	1	5.9
Neutral	5	29.4
Agree	7	41.2
Strongly Agree	4	23.5
Total	17	

**Table D-54: Coachees Evaluation Survey, Cohort 2,
High School Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	Count	Percent
Strongly Disagree	1	2.3
Disagree	1	2.3
Neutral	10	23.3
Agree	22	51.2
Strongly Agree	9	20.9
Total	43	

**Table D-55: Coachees Evaluation Survey, Cohort 1-2,
By Grade Level, Year 2007-8
(Spring 2008)**

Teachers in my building have been open to working with the mathematics coach	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Cohort 1						
Strongly Disagree	0	0.0	0	0.0	1	2.9
Disagree	0	0.0	2	10.0	1	2.9
Neutral	2	4.9	2	10.0	3	8.6
Agree	18	43.9	12	60.0	15	42.9
Strongly Agree	21	51.2	4	20.0	15	42.9
Total	41		20		35	
Cohort 2						
Strongly Disagree	4	6.0	0	0.0	1	2.3
Disagree	7	10.4	1	5.9	1	2.3
Neutral	13	19.4	5	29.4	10	23.3
Agree	31	46.3	7	41.2	22	51.2
Strongly Agree	12	17.9	4	23.5	9	20.9
Total	67		17		43	

**Table D-56: Coachees Evaluation Survey, Cohort 1-2,
All Grade Levels, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	7	2.7
Disagree	8	3.1
Neutral	48	18.3
Agree	113	43.1
Strongly Agree	86	32.8
Total	262	

**Table D-57: Coachees Evaluation Survey, Cohort 1,
All Grade Levels, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	1	.9
Disagree	4	3.6
Neutral	17	15.2
Agree	47	42.0
Strongly Agree	43	38.4
Total	112	

**Table D-58: Coachees Evaluation Survey, Cohort 2,
All Grade Levels, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	6	4.0
Disagree	4	2.7
Neutral	31	20.8
Agree	65	43.6
Strongly Agree	43	28.9
Total	149	

**Table D-59: Coachees Evaluation Survey, Cohort 1-2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	4	3.6
Disagree	2	1.8
Neutral	17	15.5
Agree	41	37.3
Strongly Agree	46	41.8
Total	110	

**Table D-60: Coachees Evaluation Survey, Cohort 1-2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	1	2.7
Disagree	2	5.4
Neutral	7	18.9
Agree	16	43.2
Strongly Agree	11	29.7
Total	37	

**Table D-61: Coachees Evaluation Survey, Cohort 1-2,
High School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	1	1.3
Disagree	2	2.6
Neutral	18	23.1
Agree	35	44.9
Strongly Agree	22	28.2
Total	78	

**Table D-62: Coachees Evaluation Survey, Cohort 1-2,
By Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Strongly Disagree	4	3.6	1	2.7	1	1.3
Disagree	2	1.8	2	5.4	2	2.6
Neutral	17	15.5	7	18.9	18	23.1
Agree	41	37.3	16	43.2	35	44.9
Strongly Agree	46	41.8	11	29.7	22	28.2
Total	110		37		78	

**Table D-63: Coachees Evaluation Survey, Cohort 1,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	0	0.0
Disagree	0	0.0
Neutral	5	11.9
Agree	13	31.0
Strongly Agree	24	57.1
Total	42	

**Table D-64: Coachees Evaluation Survey, Cohort 1,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	1	5.0
Disagree	2	10.0
Neutral	3	15.0
Agree	9	45.0
Strongly Agree	5	25.0
Total	20	

**Table D-65: Coachees Evaluation Survey, Cohort 1,
High School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	0	0.0
Disagree	1	2.9
Neutral	6	17.1
Agree	17	48.6
Strongly Agree	11	31.4
Total	35	

**Table D-66: Coachees Evaluation Survey, Cohort 2,
Elementary Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	4	5.9
Disagree	2	2.9
Neutral	12	17.6
Agree	28	41.2
Strongly Agree	22	32.4
Total	68	

**Table D-67: Coachees Evaluation Survey, Cohort 2,
Middle School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	0	0.0
Disagree	0	0.0
Neutral	4	23.5
Agree	7	41.2
Strongly Agree	6	35.3
Total	17	100.0

**Table D-68: Coachees Evaluation Survey, Cohort 2,
High School Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	Count	Percent
Strongly Disagree	1	2.3
Disagree	1	2.3
Neutral	12	27.9
Agree	18	41.9
Strongly Agree	11	25.6
Total	43	

**Table D-69: Coachees Evaluation Survey, Cohort 1-2,
By Grade Level, Year 2007-8
(Spring 2008)**

My mathematics coach receives appropriate administrative support	<u>Elementary</u>		<u>Middle</u>		<u>High School</u>	
	Count	Percent	Count	Percent	Count	Percent
Cohort 1						
Strongly Disagree	0	0.0	1	5.0	0	0.0
Disagree	0	0.0	2	10.0	1	2.9
Neutral	5	11.9	3	15.0	6	17.1
Agree	13	31.0	9	45.0	17	48.6
Strongly Agree	24	57.1	5	25.0	11	31.4
Total	42		20		35	
Cohort 2						
Strongly Disagree	4	5.9	0	0.0	1	2.3
Disagree	2	2.9	0	0.0	1	2.3
Neutral	12	17.6	4	23.5	12	27.9
Agree	28	41.2	7	41.2	18	41.9
Strongly Agree	22	32.4	6	35.3	11	25.6
Total	68		17		43	

What improvements would you recommend?

- More time to devote to the role.
- More instruction with use of internet sources
- A math coach who has taught at my grade level or near it in the past few years.
- Invent a way to make multiple "XXXX." She is a great coach.
- I wish she were able to do more modeling
- I personally thought it was a waste of time and money. That teacher could have been used to teach classes and help make class size smaller.
- Actually be able to teach a math class, or even intervention groups to help students who are not at a proficient level
- I have thoroughly enjoyed having "XXXX" as our coach. She is always there with suggestions/ideas for instruction, evaluation techniques, etc...
- The coach needs to be able to work with children.
- Doing an excellent job
- Coming into the classroom more and working with groups of students.
- It would be nice if our grade could receive more time from the coach. Many times we were faced with the challenge of implementing a new Math Series.
- Our math coach needs more time built into her schedule for coaching purposes.
- A more flexible schedule so she can spend more time with different grade levels. The math coaches in our building have also been teaching "XXXX" grade part of the day. This makes it difficult for the other grades to schedule time with them.
- More time in the classroom modeling and co-teaching
- More money to buy resources
- More time to work hands-on with all classes.
- I recommend that the teachers respect the math coach more. I recommend that the math coach make more suggestions and do lessons within the classroom.
- I just want to note that while our coach has not worked with me extensively, she has worked with other teachers. She has not always been met with open-minds.
- More time and help with strategies to teaching math. I'm very weak at math as an individual. I feel very insecure about teaching math. I wasn't a good math student in school and often had to have a tutor in college. I probably don't need to teach this but there is no other positions. My math coach has been a prayer answered. I know I wouldn't have made it these past two years without her. Thank you so much that you have provided coaches like her to help people like me to teach math.
- Just more lessons- don't ask what teachers need because they won't help you, just find creative lessons in each subject area- tell teachers you have them and all the materials and then let them use it.
- The mathematics coach needs to come into the classrooms more often.
- I understand that Professional Development is something that all teachers need to take part in. However, my Math Coach seemed like they were out of the building more often than in the building. Also, it did not seem that my district's administration seemed to effectively utilize the coach. It seemed that the coach was being pulled for other things that were not necessary.
- I would not participate in this program again. I feel like I learn enough from attending p.d and working collaboratively with my team teachers. To me it was just one more thing to do without being very beneficial. She was very nice and helpful but I just had too much on my plate to worry about without this program.
- Somehow, we need to reconcile difference between what KCCT like assessment IS and hands-on, thinking approaches to learning and practicing mathematics. Although our coach is fantastic, she is unable to reach her full potential because of the time constraints placed on her by the district for each unit - we never can reach the depth of good mathematical thinking with doing a weekly KCCT like assessment and keep on schedule with the other demands.
- I know that "XXXX" has to split her time amongst the 3rd - 5th grades, but I just wish she had more time through the week to come into classes to work with the teachers and students.

- I would like the math coach to give me actual sources of teaching materials so I can have more to link to when planning and teaching than just a binder of math activities.
- "XXXX" had an excellent Math Coach
- I believe "XXXX" has done a fantastic job. I don't currently see any improvements that "XXXX" could make to make her more effective as our Math Coach.
- More co- teaching
- More time spent in each grade levels classrooms.
- More!
- I would have liked the math coach to do more lesson modeling. She is a great teacher and I felt like I learned a lot from watching her teach.
- "XXXX" could have modeled much more, rather than allow us to teach and then critique.
- I wasn't sure what to expect in a mathematics coach. Our coach is very nice and always willing to help, but I didn't find a level of expertise that really helped me to build my understanding of math concepts as it relates to instruction. She just follows the teacher's guide, I can do that myself.
- We need discipline support for the remedial classes.
- More face time for collaboration on instruction. My coach has so much to do that it has become somewhat impersonal. The coach is communicative through email, but some real discussion on strategies, help, hints, techniques, and feedback on previous lessons would be great, but it never happens. I know it would help me personally a lot.
- Everything is great!
- I think the math coach has done an excellent job in assisting me with differentiated math strategies, manipulatives, and assessments aligned to the core content. The only suggestion would be for the math coach to come in and model a math lesson for the classroom teacher to observe. That would help us to integrate and implement a better way of teaching a difficult math concept that the students were having trouble with.
- I do not feel comfortable in stating my recommendations.
- Keeping [coaches] them in a place within our school.
- Continue to keep them in the schools even though we are facing budget cuts.
- I do not want to take the assessment.
- Making time to meet with all math teachers, regular and special ed
- Improvements that would be recommended are: 1. A resource bank for Kentucky teachers to access 2. Curriculum Maps that begin the building process for school districts 3. Interaction with the Middle School so that we are all on the same page.
- Funding for this position should not be the school's job but rather the district. Our coach had to teach too many classes.
- Full time coaching position
- A coach should be a master teacher who is really able to coach others teachers. I don't think this is the case for us.
- Continued support throughout the school year and not just at the beginning; We had some conflict going on with a teacher and I feel as though my coach tried to stay away so as not to have to deal with it. I was indirectly involved, but because we both taught math on the 4th grade level- I missed out on support throughout the school year.
- Co-teaching sounds great
- More time to meet with classroom teachers, especially special education teachers
- More time for collaboration and modeling.
- I would like to see more modeling and more help with stations for primary.
- A magic wand to allow others to hear new ideas and accept support when needed. "XXXX" does a great job with the staff "XXXX" has to work with.
- More time working with students in classroom.
- More time needs to be spent in the early primary grades.
- More class time with coach.
- For the coach to have more time to observe me more so I can have more fee back on what I can do better. Everyone is so busy so time doesn't allow for observations to possible.
- My mathematics coach has been given too many other responsibilities by the administration. She has not had time to come into the classrooms and work with the math teachers.

- I love my math coach and would encourage everyone to have one. She has made this year a great success for me!
- The Math Coach only came into my room twice during the school year. Both times were to collect data. No feedback really was given except the numerical data results. She was in team meetings but was not an active participant. She was asked to come in and model in my room but was always engaged elsewhere in the building.
- The coaching I've had this year is tremendous and I would like to continue on in the manner we have been using.
- The Math coach should be available more. Having a Math coach is great!!!
- Administrative support is sometimes good and sometimes not so good. Teachers in our department who are not growing and are not embracing technology integration have been resistant to learning new and more effective ways to reach and teach students. Our coach has had an uphill battle with those teachers, and administrative support in that area has been weak at best.
- Our math coach should not be an administrator in the building. She has also served as primary evaluator to all math teachers in the building.
- More time in the room working with kids. I feel like mainly I receive e-mails from my math coaches telling me administrative type of information.
- I am very happy with my coach.
- Our math coach has been excellent!
- It would be very helpful if some of the budget could be used to benefit the students - the rule of not buying class sets of manipulatives, materials, etc. is unrealistic if the goal is to improve student performance.
- I would like more time to create lessons with my coach.
- More modeling and co-teaching and less observation of my teaching.
- A more clear understanding of the job description could have been provided to our principal. She did not seem to understand what this job involved.
- This was not a good year for me to have been involved because of family issues I missed a lot of the meetings and because of several of the members being on the same grade level and teaching math at the same time, it was nearly impossible to coordinate a time for my coach to come in and model or co-teach with me. I think the coach coming in and modeling and co-teaching would have been the most effective ways for me to improve as a math teacher.
- The math coach available more often to model lessons.
- Just that there be funding for this to allow it to continue.
- More PD and more time watching the math coach modeling lessons
- I realize that although somewhat out of her control, being able to be in our building more and consistent scheduling would be very helpful.
- I would suggest that "XXXX" meet more one-on-one with math teachers to discuss and reflect on current and up-coming lessons.
- More appropriate use of time Not critiquing/changing programs that are very successful Trusting teachers and not going behind their backs to get what she wants
- THE PERSON NEEDS TO BE TEACHING ONLY HALF TIME AND COACHING THE OTHER HALF.
- More people use this resource!
- More time for co teaching to allow maximum student/teacher improvement
- Perhaps more researched, professional materials for staff to glean ideas and discuss their effectiveness or use in our school.
- I would like to attend more math conferences
- More PD
- More time to have longer conversations

Appendix E: Administrator Survey Data

Table E-1: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. Because of my schools involvement in the Mathematics Coaching program... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
1. Teachers in this school or district have a greater understanding of how students learn mathematics.	4.7	0.0	9.3	53.5	32.6	43
2. Teachers in this school or district have increased their knowledge of effective instructional strategies for teaching mathematics.	4.7	0.0	4.7	53.5	37.2	43
3. Teachers in this school or district have increased their mathematical content knowledge.	4.7	4.7	14.0	53.5	23.3	43
4. Teachers in this school or district have greater knowledge of the Kentucky Core Content.	4.7	2.3	14.0	48.8	30.2	43
5. Teachers in this school or district can better analyze student work for the purpose of identifying the mathematical skills the work represents.	4.7	0.0	14.0	55.8	25.6	43
6. Teachers in this school or district are better able to identify best practices for classroom instruction that support teaching reasoning and problem solving skills to students.	4.7	0.0	7.0	62.8	25.6	43

Table E-2: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. The activities of the Mathematics Coach... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
9. Effectively support my school's/district's mathematics curriculum.	4.7	2.3	4.7	32.6	55.8	43
10. Are easy to implement in my school/district.	7.0	4.7	9.3	41.9	37.2	43

Table E-3: What benefits has your school/district experienced since implementing the Mathematics Coaching Program? These can include benefits to students, teachers, benefits related to additional resources for the district, or the like.

- Teachers have a deeper understanding of good teaching practices. Teachers now have a much wider array of resources.
- The main benefit has been what the coach has learned and the resources she has discovered and shared with other math teachers.
- The main benefit has been getting everyone on the same page with curriculum and pacing of curriculum. Also, development of common assessments.
- The curriculum was consistently implemented. Programs were evaluated in a timely fashion.
- Increased math scores, the implementation of higher level questions in the classroom, more goal setting, and unit planning
- School culture and climate is more positive, especially at the high school level. Teachers' conversations are around teaching and learning. Teachers' perspective of professional development has changed from "getting their hours" to more meaningful and true job embedded PD. Teachers are more comfortable and confident when teaching mathematics. Students are more confident and proficient in math.
- Helping teachers improve their math instruction in the classroom and analyzing student work
- The classroom teachers are better able to tailor mathematics instruction to the individual needs of the children due to the collaboration with the math coach.
- Improvement of teaching of less experienced teachers.
- The math coach has helped the school build capacity in teaching mathematics, students have received a fluid math program that provides for interventions and enrichment when needed, and teachers feel more confident in teaching mathematics that matches Kentucky Core Content.
- The coach received wonderful training.
- Student achievement was a wonderful by product of "XXXX" efforts.
- Our teachers that have had the benefit of working with our coach, have increased not on their understanding of mathematics, but how to effectively share that with their students.

- Teachers really looked at how they were teaching the content and worked with our coach to come up with more effective ideas.
- Everyone has benefited. The teachers have access to a coach that shares strategies that they in turn use in their classrooms. The students are receiving better math instruction. More materials and resources have been available.
- Other teachers have a resource or someone to go to for assistance. Better planning and coordinating in the math department.
- teachers have someone to research for them
- We have increased math proficiency in our school. Our teachers are much more capable of teaching math in their classes. Their comfort level has improved. They are much more able to teach a math concept in a variety of ways to meet the individual needs of their students.
- improved instructional strategies and teacher reflection
- Has made the math coach/ instructional leader a much more valued position.
- Support for teachers in terms of resources, tools, strategies. Support for students in terms of varied learning styles.
- Teachers were made aware of different styles and strategies as well as learning about materials available to them. Meeting with the coach and having live discussions has been good.
- All teachers have received Math PD on best practices for math instruction. The modeling and professional development has completely changed the way we are teaching Math at my school. Our students are excited and active participants in our math instruction.
- Instrumental in implementation of new program "Measure of Academic Progress"
- Additional technology resources received from participation. Additional teachers being given or exposed to new strategies on how to improve instruction. Math departments as a whole have been given the opportunity to improve instruction as a department. For students, more hands on activities, they have increased use of technology (calculators) for teachers and students.
- Definitely a benefit to resources for all teachers to go to and ask questions about teaching math. Able to brainstorm ideas and get specific ideas for our coach. This helps our staff because they are ultimately more confident in teaching math.
- Main thing is the fact that we have someone to make the connection for schools. Brought primary teachers together across the district in math. All this goes back to students through the teachers. The Math nights with parents. The parents are very supportive and students are excited to have their parents there.
- Teachers = knowledge of best practice and its implementation of best practices
Students = opportunities for collaboration and investigation of core content in math. Math coach was major resource – “XXXX” has math background and can understand connections needed for higher math NCTM standards and has implemented it. “XXXX” has been changing teachers’ conceptual understanding of how to teach math based on his experiences to engage students in math.
- Benefits mostly with individual staff members. Owning student learning for teachers - how to get that across. Helps staff understand what is critical for student learning and that they should be responsible for that learning.
- Fostered more communication with her mathematics department. Having coach in her capacity, teaches communication to work together and helps facilitate. Keeps dialogue open between teachers. Good conduit between department and staff.
- Little benefit gained

- Eliminated all gap areas with NCLB, math achievement has increased in all assessed areas.
- Math coach has been able to utilize student data to help teachers inform instruction.
- My teachers feel more comfortable with math content and teaching the required skills. There has been a major initiative in my school (led by my coach) to increase student's proficiency in basic skills by increasing their number sense in the early primary grades. Teachers are very excited about this.
- I will have to wait and see results over time.
- My teacher's quality of mathematical instruction has improved.
- Other than what I've told you, they've used research based strategies. She has helped the teachers implement those strategies. I think she's taught them a better way to look at the data. They'll review the data.
- Additional resources and technology Additional teacher collaboration

Table E-4: How have other math teachers responded to having a math coach in their school/district?

- Overall, negative.
- Mostly very receptive. Some not.
- Teachers have respected the time and opportunity to have a coach in the building to allow all to grow in professional responsibilities.
- All Math teachers have been supported by the math coach and welcome her expertise.
- Teachers have responded to the coach with trust in knowing that she is there to guide and assist-- not to evaluate. They embrace the fact that together they can bring about needed improvement in math instruction within the district.
- This has been very well received
- Most have been excited and welcoming. Some have been slow starters, but they are all on board!
- They have been happy to have the help.
- Math teachers have welcomed the coaching process and support.
- The math department as a whole has been very receptive and positive about "XXXX" involvement in the classroom.
- The majority of our teachers have been very responsive. Some of our struggling teachers have been more resistant.
- The teachers who volunteered for this were very open to the strategies and experience the math coach could provide.
- They have been very receptive and have sought out her help. The math coach develops a schedule so that she can work with teachers but many also request additional help. The teachers know they have a great resource if they need help finding materials, the best way to teach a concept, etc.
- Receptive and supportive.
- they like it
- They have been very receptive. They have felt very comfortable with our coach. Our coach started with a good reputation of being a good teacher. She worked with the teachers in a non-threatening manner. They like working with her to improve their instruction.
- welcomed
- They seek out his help on numerous occasions.
- Most have embraced it, if not from a coachee standpoint, from a resource standpoint.
- They have responded well.
- In the beginning the teachers were all concerned about our math scores and instructional program. My teachers were ready for strategies and instructional practices to ensure that our students would be successful and enjoy math (our students had high Reading scores and seemed to be anxious about math classes). I have been thrilled at watching students enjoy math and become active learners and participants.
- Apathetic
- It has been very positive - all have interactions with the coach.
- Extremely positive. 95% are positive and welcome somewhat of an expert in that particular field.
- They have been extremely positive with who we have. This has brought our primary teachers together.
- Really well. Coach has already had good, strong relationship with teachers. They respected and new "XXXX" had knowledge to teach math - open arms. "XXXX" is "XXXX".
- All 3 have responded very well. There is one math teacher for each grade (6, 7, and 8)
- Positive. They understand importance of mathematics. Very receptive.
- not always open to input
- Extremely welcoming and work together collaboratively as a team!

- Overall the response has been positive. There are some folks resistant to change.
- They have been very encouraging and supportive. Some were a little hesitant to have another teacher come into their classrooms, but were OK once they realized that she was only coming in to help, not evaluate.
- Some favorable some not as favorable.
- Many teachers are grateful for the extra help. They report being more confident in teaching mathematics.
- It took a little while. We have a 3rd year. The first year nobody knew what to expect. We'd never had anything like this before. They went along. After the first year, they started to call her and ask for help. It evolved.
- Some have responded well, others not so well

Table E-5: What have been the biggest challenges that your school/district has faced because of its involvement in the Math Coaching Program? These challenges can involve issues with students, teachers, resources, or the like.

- Finding time for teachers and the math coach to work collaboratively with all of the other demands on teachers and their time.
- Getting teachers to buy in. A couple of our teachers view anyone that has a schedule different from them as an administrator therefore they feel they have free time or less responsibilities.
- Giving up an excellent math teacher for half a day.
- The biggest challenge has been funding. We no longer have the funds to support the position.
- No challenges
- Of course, the main challenge is funding. By taking the math coach out of the classroom, it may limit hiring a new regular classroom teacher.
- We have had no challenges!!!
- Scheduling! The teachers have so many people to collaborate with and so many demands on their time, they have trouble getting together.
- Finding the staffing in order to release the coach of teaching duties.
- Funding to provide enough release time for the math coach has been the biggest challenge
- Our biggest challenge was working with the coach our school selected. This person was overbearing and unrealistic in expectations of the use of teachers' time.
- The biggest obstacle would be finances
- Initially our struggle was getting teachers to understand the math coach was a resource, not an evaluator. Within the past two years, she has made great progress.
- Time for all of them to meet and bounce around problems, solutions and strategies.
- The biggest challenge has been money. We are not going to be able to continue in the coaching grant because we can no longer fund the position.
- Funding to free up the math coach from teaching classes.
- Time- it was difficult to work around a part time schedule; however, the coach did try to accommodate early requests
- Scheduling is the major hurdle we had to deal with. Getting the coach into the classes during the math instruction and then still teach the classes she is responsible for.
- time management
- Days out of the building and budget issues.
- Interpersonal relationships with adults
- Other teachers getting over the time the coach was given to do the coaching.

- Some of the biggest challenges have been the scheduling to allow all teachers to work with the Math Coach. Many teachers in our building have Math instruction at the same time. Another challenge has been the need for an intervention teacher to work with students performing at the 3rd Stanine and below and to receive interventions.
- Having a peer of equal standing give veteran teachers' instruction.
- Not faced any challenges. Has not caused any challenges.
- Coverage for substitute for coach. Working out schedules. Getting central office support for funding of a substitute.
- Being able to provide for the needs based on the way the funding is set up - have to look to other funds. 2. Challenges for the coach is having to discuss the information and being able to pull them away from the classroom for discussion. Teachers don't want to be pulled away. We have kept literacy coaches but their guidelines are a little better - teachers get benefits and college credit. The benefits don't outweigh problems/restrictions we have imposed.
- Not challenging of the math coach. The challenge is trying to change thinking of how to teach math.
- Obstacle would be time - being able to meet with teachers really consistently. Could be more formal PD opportunities.
- For this year, budgeting and funding resources to fund the position full time.
- The culture of our math department is that they believe themselves excellent and able to "solve" any issue if they are "left alone." It is a continuing challenge to change the culture to one of a professional learning community.
- Trying to find the time to have the coach in all areas and provide assistance to struggling teachers.
- Financial support to insure the continuation of the program.
- Our school is huge (K-4 with "XXXX" students), so finding ways for our coach to work effectively with the staff has been a challenge. It would be very easy to spread her too thin, but we seem to have found a method that is working.
- Resources and support from Central office. Needed substitute support but did not receive from Central office.
- The biggest challenge has been scheduling our two coaches.
- We were lucky because we knew the coach program. We knew the best person to do that. She was a full-time teacher and we had to hire another f/t teacher to take her classes. The board has been very supportive of the math coach program.
- Getting a clear idea of exactly what the coach could do to encourage change

Table E-6: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. The Mathematics Coaching Program, as implemented in my school or district... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
14. Encourages learning that is in line with Kentucky Core Content.	4.7	.0	4.7	37.2	53.5	43
15. Promotes having children actively involved in doing mathematics.	4.7	.0	2.3	32.6	60.5	43
16. Helps students develop a strong conceptual framework from which to build future mathematics skills.	4.8	.0	7.1	35.7	52.4	42
17. Has improved the quality of mathematics teaching in my school/district.	4.7	4.7	11.6	30.2	48.8	43
18. Promotes student learning by identifying where they need additional instruction and support.	4.7	4.7	4.7	44.2	41.9	43
19. I am pleased with the overall quality of the Math Coaching program.	2.4	4.8	11.9	28.6	52.4	42
20. Other teachers in this district/school value the Math Coaching program.	7.0	2.3	16.3	41.9	32.6	43

Table E-7: Administrators Survey, Coaching Program, Year 2007-8, Cohort 1-2. Resource and Budget Issues... (Spring 2007)

	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %	Count
21. This school or district has sufficient funds and resources to implement the Math Coaching program.	16.3	16.3	14.0	51.2	2.3	43
22. Math Coaches have adequate time to prepare for their activities.	.0	14.3	4.8	50.0	31.0	42
23. Budget issues make it difficult to provide Math Coaches with the supplies they request.	9.3	39.5	11.6	37.2	2.3	43
24. Expenses related to granting release time for teachers to attend the Math Coach's professional development sessions that occur throughout the year, are easily absorbed by the district.	7.0	25.6	25.6	37.2	4.7	43
25. This district or school has adequate space to implement the Math Coaching Program.	2.3	14.0	2.3	44.2	37.2	43
26. The Math Coaching program has been worth the resources (time, money) our school/district has committed to its implementation.	.0	4.7	11.6	34.9	48.8	43

Table E-8: Are you participating in the Mathematics Coaching Program next year?

	Percent %	Count
Yes	51.2	22
No	48.8	21

Table E-9: If “NO”, why are you/is your school not participating? *Fifteen of the 21 schools/districts where coaches are not continuing with the program state funding, budget, or lack of resources such as staffing as a/the reason.*

- Lack of Funding
- Due to scheduling, we will not be able to release a teacher for any part of a day.
- Lack of funding.
- The school can no longer resolve the staffing need in order to release the teacher from teaching duties.
- Funding can't support an additional year.
- Title I funds were cut this coming year. Lack of funds.
- Reduction of funding
- funding - math coach is needed for other intervention services
- No longer able to fund the coaching position.
- Funding
- We have completed the 2nd year of the program
- Due to budget constraints the position of coach had to be absorbed.
- Funding!!! We are losing teachers next year and we can't cover the funding of the coach. Wish they could fund more to help the cost. It is a great program and the state needs to look at this as seriously as they do for reading.
- Have so many stipulations - they have so many guidelines associated with the money. WE get very little to use the way we needed to. We want more control over what the coach/person does. We want to be able to say what the coach does. Coach feels they can't meet the need of the program and needs of the district at the same time.
- WE were told we could not because our coach is “XXXX” and we can't allow new coaches in. But we are having a coach but not funded by KCM!
- I don't know but assume so. The coach is “XXXX”. If the coach could come away with specific PD ideas/topics to work on. More specific PD strategies
- Do not have time and resources.
- MONEY
- There is no more funding.

Appendix F: KCCT Data

KCCT Data: Table F-1 provides KCCT scores for all schools that participated in the coaching program. The statewide testing program was revised in 2007. Therefore, results from 2006 are not compared to future scores. These data are included here as baselines for future comparisons.

Table F-1: KCCT Scores for Schools with Coaching Programs

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
Owingsville Elem.	2007-8	Bath		78.94	89.24	10.3
Salt Lick Elem.	2007-8	Bath		85.19	100.24	15.05
Bell County High	2006-7	Bell	61.7	57.4	68.9	11.5
Burlington Elem.	2006-8	Boone	89	96.1	101.5	5.4
Collins Elem.	2006-8	Boone	70.83	76.05	88.71	12.66
Conner Mid.	2007-8	Boone		96.7	100.17	3.47
Erpenbeck Elem.	2006-7	Boone	99.59	108.25	110.11	1.86
Florence Elem.	2006-7	Boone	77.25	90.27	102.62	12.35
New Haven Elem.	2006-7	Boone	92.35	103.91	110.43	6.52
North Pointe Elem.	2006-7	Boone	103.45	108.74	112.76	4.02
Yealey Elem.	2006-7	Boone	96.9	104.21	102.94	-1.27
Junction City Elem.	2007-8	Boyle		77.7	86.7	9
Hogsett Elem.	2006-8	Boyle	92.8	82.4	90.9	8.5
Toliver Elem.	2007-8	Boyle		84.9	111.7	26.8
Maryville Elem.	2007-8	Bullitt		104.8	104.9	0.1
Overdale Elem	2007-8	Bullitt		75.04	91.63	16.59
Campbell County High	2006-8	Campbell	78.72	80.5	75.7	-4.8
Campbell County Mid.	2007-8	Campbell		92.2	93.6	1.4
Clay County High	2006-8	Clay	53.65	53.8	62.1	8.3
Clay County Mid.	2006-8	Clay	65.4	75.81	73.66	-2.15

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
Manchester Elem.	2007-8	Clay		82.84	100.72	17.88
Paces Creek Elem.	2007-8	Clay		110.3	79.5	-30.8
Crawford Mid.	2006-8	Fayette	65.9	68.3	71.5	3.2
Julius Marks Elem.	2007-8	Fayette		101.92	110.96	9.04
Madeline M Breckinridge Elem.	2006-8	Fayette	87.9	81.8	100.2	18.4
Millcreek Elem.	2007-8	Fayette		67.6	62.1	-5.5
Yates Elem.	2007-8	Fayette		93.7	110.8	17.1
Bondurant Middle	2006-8	Franklin	72.6	78.6	83.4	4.8
Grant County High	2006-8	Grant	64.77	63.5	70.6	7.1
Greensburg Elem.	2006-8	Green	73.9	92.9	98.2	5.3
Greenup County High	2007-8	Greenup		48.3	52.1	3.8
Campbell Elem.	2006-8	Greenup	NA	NA	NA	NA
Raceland-Worthington High	2006-8	Greenup	59.9	59.7	66.7	7
Worthington Elem.	2006-8	Greenup	65.77	77.29	83.24	5.95
Parkway Elem.	2007-8	Hardin		68.4	72.2	3.8
Cairo Elem.	2006-7	Henderson	88.1	96.2	98.2	2
Southside Elem.	2007-8	Hopkins		83.66	89.51	5.85
Jackson County High	2006-8	Jackson	58.48	46.8	55.4	8.6
Bates Elem.	2006-8	Jefferson	88.5	85.3	83.3	-2
Cane Run Elem	2006-7	Jefferson	94.7	88.1	98.4	10.3
Cochrane Elem.	2006-8	Jefferson	65.2	75.6	80.8	5.2
Coral Ridge Elem.	2006-8	Jefferson	90.9	94.8	92.7	-2.1
Doss High	2007-8	Jefferson		55.4	54	-1.4
Engelhard Elem.	2006-8	Jefferson	86.4	99.2	95.6	-3.6

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
Fairdale High	2006-8	Jefferson	61.16	54.77	48.37	-6.4
Goldsmith Lane Elem.	2007-8	Jefferson		71.5	84.7	13.2
Hawthorne Elem.	2006-7	Jefferson	97.6	110.5	111.9	1.4
Indian Trail Elem.	2006-7	Jefferson	82.9	90.5	92.5	2
Iroquois High	2007-8	Jefferson		49.2	49.8	0.6
Johnsontown Road Elem.	2006-7	Jefferson	74.6	76.9	85.6	8.7
Kenwood Elem.	2007-8	Jefferson		79.5	74.7	-4.8
Knight Mid.	2006-7	Jefferson	48.4	57.4	56.5	-0.9
Laukhuf Elem.	2006-8	Jefferson	86.1	83.4	84.7	1.3
Malcolm B Chancey, Jr. Elem.	2006-8	Jefferson	83.8	99	106.8	7.8
McFerran Elem.	2006-7	Jefferson	97.2	89.5	94.4	4.9
Medora Elem.	2006-8	Jefferson	81.3	97.1	103.1	6
Rangeland Elem.	2006-7	Jefferson	89.1	88.5	76.7	-11.8
Shacklette Elem.	2006-8	Jefferson	86.4	79.4	84	4.6
Slaughter Elem.	2006-7	Jefferson	69	82.3	75	-7.3
Thomas Jefferson Mid.	2006-7	Jefferson	50.4	68	65.4	-2.6
Valley Traditional High	2007-8	Jefferson		47.9	50.5	2.6
Wellington Elem.	2006-7	Jefferson	75.7	80.9	91.4	10.5
Wheeler Elem.	2006-8	Jefferson	94.6	101.9	110.2	8.3
East Jessamine Mid.	2006-8	Jessamine	66.35	74.5	82.2	7.7
West Jessamine High	2006-7	Jessamine	70.3	70.6	83.3	12.7
West Jessamine Mid.	2006-7	Jessamine	78	90.1	98.9	8.8
Lloyd High	2006-8	Kenton	71.45	76.5	72.6	-3.9
Dixie Heights High	2006-7	Kenton	86.32	88.07	78.87	-9.2

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
Scott High	2006-7	Kenton	75.79	67.91	68.69	0.78
Corbin High	2006-8	Knox	76.1	79.8	77.6	-2.2
Lynn Camp High	2007-8	Knox		42.2	52.5	10.3
Lawrence County High	2006-7	Lawrence	54.76	52.23	48.61	-3.62
Beattyville Elem.	2007-8	Lee		77.6	85.2	7.6
Southside Elem.	2007-8	Lee		83.9	84.3	0.4
Crab Orchard Elem	2007-8	Lincoln		78.6	90.4	11.8
Lincoln County High	2006-8	Lincoln	55.1	62.8	60.5	-2.3
Mason Intermediate	2007-8	Mason		96.4	99.8	3.4
Heath Mid.	2006-7	McCracken	87.7	95.3	94	-1.3
Cooper Whiteside Elem.	2006-7	McCracken	71.4	58.7	NA	NA
Mercer County Elem.	2007-8	Mercer		88.86	98.97	10.11
Metcalfe County High	2007-8	Metcalfe		60.5	52	-8.5
Joe Harrison Carter Elem.	2006-8	Monroe	70.6	112.5	107.9	-4.6
Monroe County High	2006-8	Monroe	63.62	54.6	71.2	16.6
Monroe County Mid.	2006-8	Monroe	63.92	71.5	74.2	2.7
Montgomery County High	2007-8	Montgomery		70.2	66.7	-3.5
Greenville Elem.	2006-8	Muhlenberg	81.3	94.2	97	2.8
Old Kentucky Home Mid.	2007-8	Nelson		75	82.1	7.1
Ohio County High	2007-8	Ohio		70.4	65.6	-4.8
LaGrange Elem.	2006-8	Oldham	86.2	93.6	98.6	5
Oldham County High	2006-8	Oldham	88.4	86.4	87.7	1.3
South Oldham High	2007-8	Oldham		93.8	94.26	0.46
Pendleton County High	2006-8	Pendleton	57.8	56.2	61.4	5.2

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
Phillip A Sharp Mid.	2006-8	Pendleton	68.6	88	89.1	1.1
Robert W Combs Elem.	2007-8	Perry		90.04	100.72	10.68
Shelby County East Mid	2006-8	Shelby	64.3	80.4	83.4	3
Shelby County High	2006-7	Shelby	70.7	68.3	65.7	-2.6
Shelby County West Mid	2006-8	Shelby	69.1	76.2	79.1	2.9
Spencer County High	2007-8	Spencer		61.6	57.8	-3.8
Campbellsville Mid.	2007-8	Taylor		76.4	81.2	4.8
North Todd Elem.	2007-8	Todd		87.4	96.8	9.4
Trigg County High	2006-7	Trigg	70.2	67.2	76.2	9
Union County Mid.	2007-8	Union		72.4	71.7	-0.7
Alvaton Elem	2007-8	Warren		91.77	94.81	3.04
Briarwood Elem.	2006-7	Warren	97.5	102.97	106.38	3.41
Bristow Elem.	2006-7	Warren	96.91	90.65	94.35	3.7
Cumberland Trace Elem	2006-8	Warren	86.19	87.25	102.4	15.15
Greenwood High	2006-8	Warren	84.1	88.3	86.4	-1.9
Lost River Elem.	2007-8	Warren		92.59	95.54	2.95
North Warren Elem	2007-8	Warren		103.42	106.45	3.03
Plano Elem.	2006-7	Warren	NA	NA	92.27	NA
Rich Pond Elem.	2006-7	Warren	102.66	101.19	101.46	0.27
Richardsville Elem.	2007-8	Warren		79.65	89.62	9.97
Warren Central High	2006-8	Warren	73.5	68.8	74.8	6
Warren East High	2006-8	Warren	70	67.7	60.5	-7.2
Warren East Mid.	2006-7	Warren	80.8	84.9	83.1	-1.8
Warren Elem.	2006-7	Warren	88.86	103.42	106.45	3.03

School Name	Program Year	County	2006 Math Index	2007 Math Index	2008 Math Index	Change in Math Index 2007 to 2008
William Natcher Elem.	2006-7	Warren	85.67	100.42	104.73	4.31