



Summary of “AMSTI 2009 Summer Institutes Evaluation Report”

An external evaluation of the effects of AMSTI Summer Institute Training on teacher content knowledge was conducted by the Office of Community Affairs under the direction of Dr. Randall E. Schumacker.

Pre-tests and post-tests were administered to teachers who attended AMSTI Summer Institutes at Athens State University (Athens), the University of Alabama at Birmingham (UAB), the University of South Alabama (USA) and Auburn University (AU). The pre-test was used to gather baseline data. Differences in scores from the pre-test and post-test were used to determine an increase in teacher content knowledge.

Through the use of the pre-test, post-test approach, the external evaluation provides empirical evidence that teachers’ content knowledge was strengthened across grades and sites as a result of participation in AMSTI Summer Institutes, providing further documentation that the AMSTI professional development model is achieving its primary purpose.

Summary of 2009 AMSTI Summer Institutes

“The AMSTI Summer Institutes create sustainable, site-based programs to improve math and science teaching and learning. ALSDE annually invites schools to apply for AMSTI training with those selected invited for professional development training. This report analyzes teacher pretests and posttests administered at AMSTI 2009 Summer Institutes held at four sites in June 2009 as indicated below:

<u>Location</u>	<u>Date</u>	<u>Math Sessions</u>	<u>Science Sessions</u>
USA	June 1 - 12 th 2009	K - 12	K - 8
UAB	June 8 - 19 th 2009	K - 8	K - 8
Athens	June 15 - 26 th 2009	K - 5, Algebra, Geometry, Advanced math	K - 5
Auburn	June 22 - 26 th 2009	K - 8	K - 6, 8”

(Page 2)

“The math mean percent correct posttest scores were higher than pretest scores across most grade levels for Athens, UAB, USA, and Auburn... This indicated overall that professional development training improved the teacher’s content knowledge in math.” (Page 24)

“The grade levels for each site that posted statistically significant gains in math are listed below:

- Athens: K, 1st, 2nd, 3rd, and Geometry
- UAB: K, 1st, 2nd, 3rd, 4th, 7th, and 8th
- USA: 1st, 3rd, 7th, 8th
- Auburn 4th and 6th” (Page 24)

“The science mean percent correct posttest scores were higher than pretest scores across all grade levels for Athens, UAB, USA, and Auburn. Figures 5 to 8 graphed the pretest and posttest mean science percent correct. This indicated that overall professional development training improved the teacher’s content knowledge in science.” (Page 24)

“Statistical differences in science pretest and posttest means did not vary much across grade levels at each site. For Athens, UAB (excluding Sixth grade – one teacher), USA, and Auburn (except Third grade) the science posttest means were statistically higher than science pretest means at all grade levels.” (Page 24)

“Collective findings for math indicated that the overall math mean percent gain showed Seventh grade the highest (37%) followed by Eighth (25%), First (22%), Algebra (19%), Kindergarten (18%), and Third and Advanced Math (14%). Collective findings for science indicated that the overall science mean percent gain showed Kindergarten the highest (42%) followed by Seventh (40%), First (33%), Second, Fourth, and Sixth (30%). Overall, AMSTI professional development training yielded better results in science than math.” (Page 25)

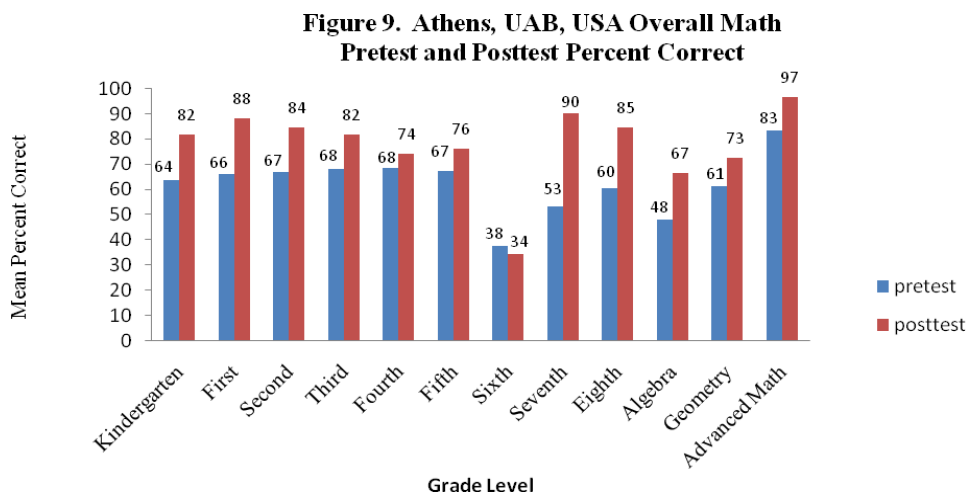
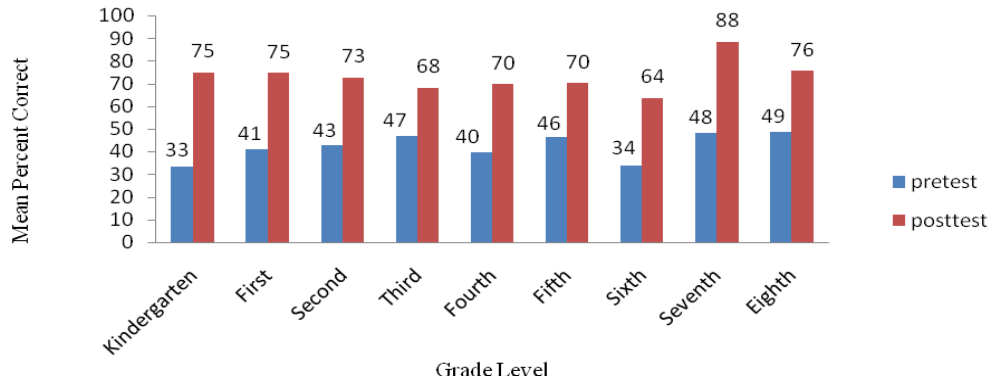


Figure 10. Athens, UAB, USA, and Auburn Overall Science Pretest and Posttest Percent Correct



Summary of 2009 AMSTI Summer Institutes by Site

Athens

Math

- “Algebra had the highest pretest to posttest mean percent gain (34%), followed by Geometry (31%)...Other grade levels posting double digit gains were Kindergarten (20%), First (21%), Second (20%), Third (15%), and Fifth (11%).” (Page 3)

Science

- “Second grade had the highest pretest to posttest mean percent gain (42%)... followed by Kindergarten (41%), First (39%), Fourth (36%), Third (34%), and Fifth (16%) grades. This indicates that the teacher’s test scores improved from pretest to posttest in all the grade levels.” (Page 11)

Figure 1. Athens Math Mean Percent Correct

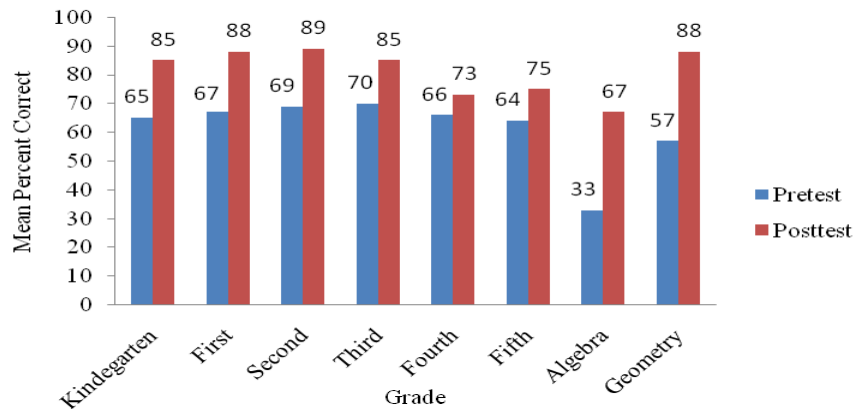
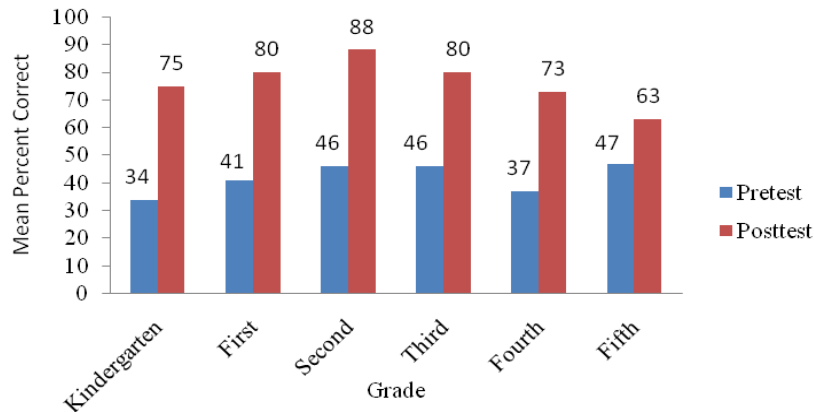


Figure 5. Athens Science Mean Percent Correct



UAB

Math

- “The Seventh grade had the highest pretest to posttest mean percent gain (45%), followed by First (30%)...Other grade levels that posted double digit percentage increases were Kindergarten (27%), Second (23%), Eighth (15%), Fourth (13%), and Third (12%).” (Page 5)

Science

- “The First grade had the highest pretest to posttest gain (53%), followed by Seventh (48%), Kindergarten (46%), and Fifth (41%) in Table 17. All other grades posted at least 20% gains: Eighth (36%), Fourth (32%), Second (30%), and Third (20%).” (Page 13)

Figure 2. UAB Math Mean Percent Correct

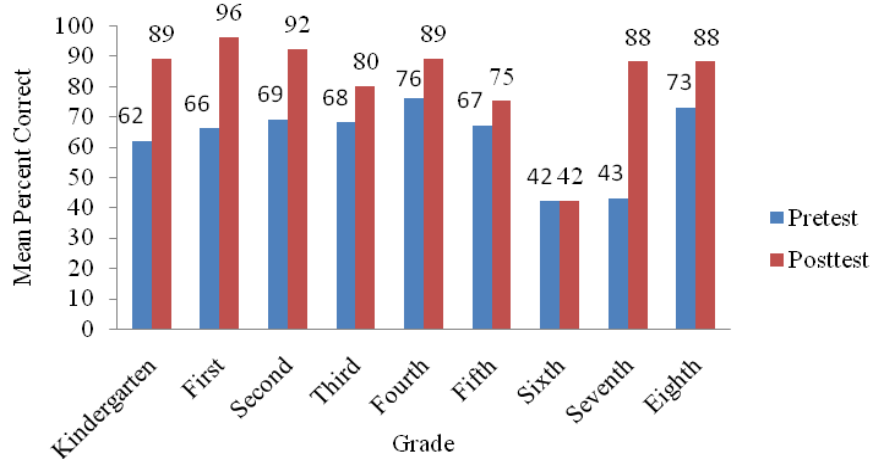
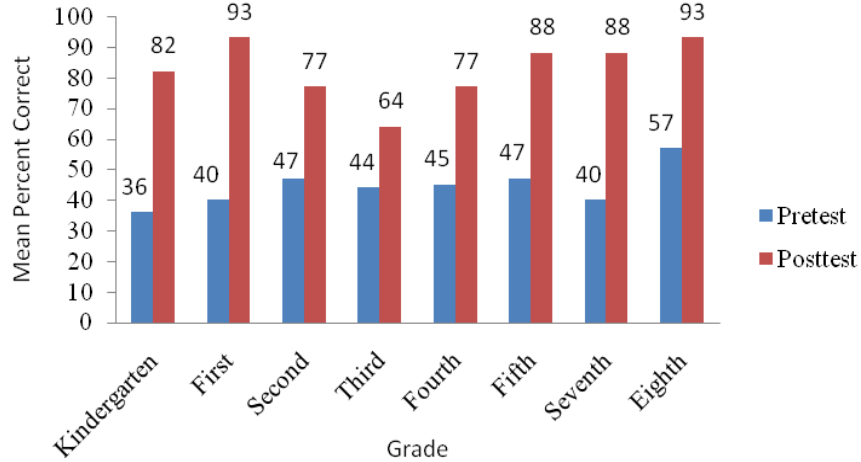


Figure 6. UAB Science Mean Percent Correct



USA

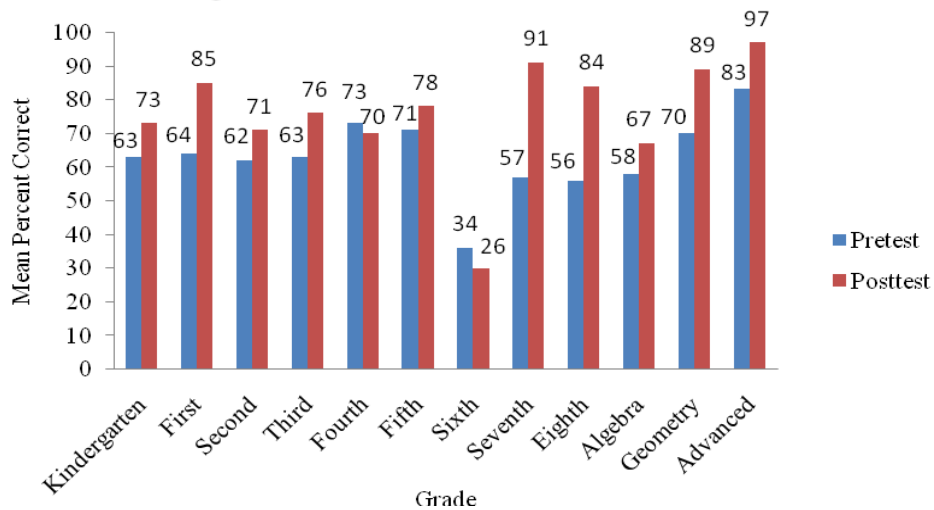
Math

- “The Seventh grade had the highest gain (34%), followed by Eighth (28%)...Other grades that posted double digits were First (21%), Advanced (14%), Third (13%), and Kindergarten (10%). (Page 7)

Science

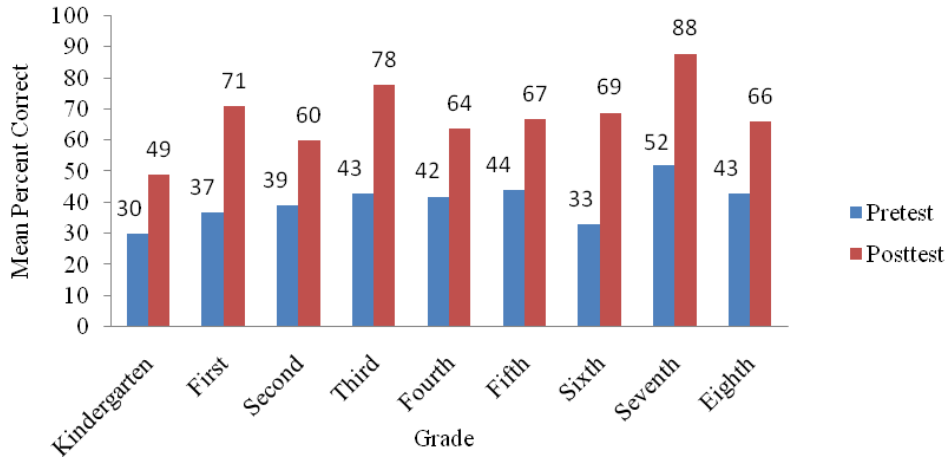
- “Sixth and Seventh grades had the highest pretest to posttest gains (36%) in Table 20, followed by Third (35%), First (34%), Fifth and Eighth (23%), Fourth (22%), Second (21%), and Kindergarten (19%).” (Page 15)

Figure 3. USA Math Mean Percent Correct



Note: Item #4 on the sixth grade science pre- and posttest was omitted, impacting the outcomes of the pre- and posttests.

Figure 7. USA Mean Percent Correct



AU

Math

- “Fourth grade had the highest pretest to posttest gain (41%), followed by Sixth (40%) in Table 11. Other grades posting double digit gains were Eighth (24%), Fifth (14%), Second (11%), and Seventh (10%). It is important to note that all respondents in Sixth, Seventh, and Eighth grade sessions answered every item on the posttest correctly and scored 100%. Third grade failed to show any gain (-1%) and is an area of concern.” (Page 9)

Science

- “Kindergarten had the highest pretest to posttest gain (66%) in Table 23, followed by Eighth grade (30%), Fourth (26%), Fifth (24%), Second (23%), and First and Sixth (20%). Third grade is an area of concern due to showing a 5% gain.” (Page 17)

Figure 4. Auburn Math Mean Percent Correct

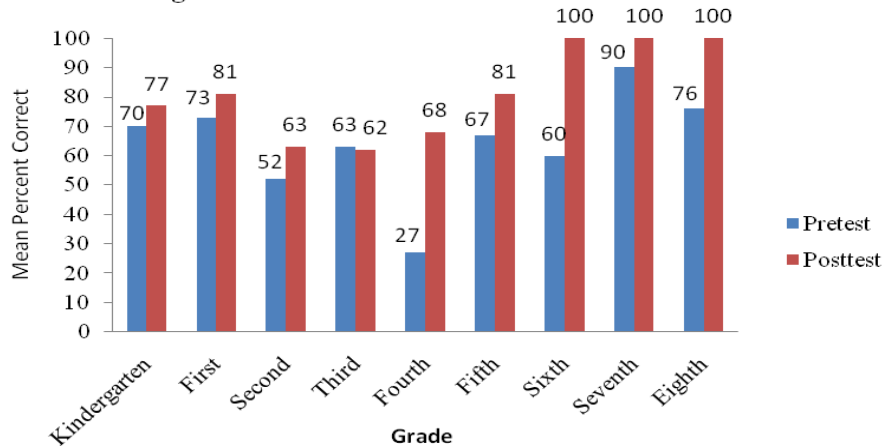


Figure 8. Auburn Science Mean Percent Correct

