

VI. Evaluation of the 2008-2009 Year

Feedback from participating teachers is critical to the success of the program and responses are carefully reviewed and considered. The surveys in this section of the report were disseminated in early June 2009 to the contact persons of the high schools involved in either NC EMPT paper-and-pencil or Web-based Option #2 testing during the spring of 2009. The surveys were created and distributed via email using Perseus software. This software was made available to the associate director by the Information Technology and Computing Services Department of East Carolina University. The teacher contacts were asked to discuss the survey statements and questions with other participating math teachers in their departments before completing the survey. With 154 of the surveys returned to our office, 69% of those polled responded. This response rate is much improved. For example, last year's response rate was only 44%. In past years, a paper-and-pencil survey was enclosed with spring testing results rather than the online survey employed in June 2009.

Healthy Responses from the Surveys of 2008-2009 Participating Teachers ...

- Question #3: **93%** strongly agreed or agreed that the instructions provided for each teacher for paper-and-pencil or Web-based testing were clear and easy to follow.
- Question #5: **89%** strongly agreed or agreed that students were attentive and tested with a serious attitude.
- Question #6: **97%** strongly agreed or agreed that the NC EMPT office promptly returned hard copies of test score summaries for teachers and individualized results letters for students.
- Question #7: **96%** strongly agreed or agreed that the test score summary received by each teacher for each class period was helpful.
- Question #8: **93%** strongly agreed or agreed that the lime green brochure titled "Mathematics Placement Procedures at NC Community Colleges and UNC Constituent Institutions, 2008-2009" that was included in each teacher's results package was useful to teachers in advising college-bound students.
- Question #11: **89%** strongly agreed or agreed that students found their individualized results letters easy to understand and informative.
- Question #13: **93%** strongly agreed or agreed that the NC EMPT Program accomplished its goal of providing participating high school students with a "reality check" of their readiness for college-level mathematics.
- Question #15: **96%** strongly agreed or agreed that overall, the NC EMPT Program provides a valuable service to high school students and teachers.

These responses reassure us that both students and teachers are very satisfied with the administration, efficiency, value, and wealth of timely information provided by the NC EMPT Program. It is especially heartening to receive a 96% vote of confidence with regard to the overall value of the service to high school students and teachers. The NC EMPT test is not mandatory and the fact that so many teachers voluntarily find room in their busy math curriculums to employ this early math placement test is a testament to its value.

Each year, NC EMPT Advisory Board members who represent NC community colleges and UNC institutions are asked to update information about their particular schools. This information is unique to each school and includes calculator usage on actual math placement tests, beginning required math courses for majors, and descriptions of math placement procedures. The associate director gathers this information and updates a brochure titled “Mathematics Placement Procedures at NC Community Colleges and UNC Constituent Institutions.” This important brochure is disseminated each year to each participating teacher and all public and non-public high school principals, math chairs and counseling departments. According to question #8 in the above survey, 93% of the teachers responding found this brochure helpful in advising students. This same valuable information provided by board members has another important use. It is imbedded in individual student results letters based on the student’s choice of major and college/university.

There is always room for improvement. The survey question receiving the lowest approval rating was #2: “If you registered online (rather than mailing or faxing the paper form), the online sign-up form was user-friendly and reliable.” Only 74% of the respondents answered positively, that is, they strongly agreed or agreed with this statement. We will restudy the online form and make adjustments in order simplify the process of completing the form. As far as reliability is concerned, there are inherent problems with Web servers and so there will be times when completed registration forms are not received. We also find that despite written reminders, some required fields of information are not completed by a handful of contact persons and their sign-up form is therefore not successfully submitted. In both cases, contact persons are warned to look for a confirmation email that should immediately be received in their email boxes from the NC EMPT office. If the confirmation is not received, the contact persons are advised to contact the office as soon as possible.

Survey question #4 asks respondents if “test administration took a total of 55 minutes or less.” The question received a positive response of 79%. Last year, 95% of the teachers responded positively to this question. These teachers employed the paper-and-pencil tests only. This 2008-2009 survey question was directed to all teachers including those who gave the paper-and-pencil or the Web-based version. Because very few changes were made in the instructions for the administration of the paper test this year, our conclusion is that the positive response was lower this year due to technical difficulties on the part of students or teachers when trying to employ the less familiar online testing avenue.

Survey question #10 asks respondents if “participating teachers took time to review test errors with students.” The fact that only 64% of the responses were positive is disheartening. Much additional value to students is derived from reviewing their mathematical strengths and weaknesses and in discussing the merits of the test results. However, with stiff competition for valuable instructional time and with one day already sacrificed for testing, adding a second day to review results is a difficult choice for some teachers.

A copy of the Perseus survey questions and results follows:

QUICK NC EMPT Survey
2008-2009

A QUICK Survey of NC EMPT Testing, Spring 2009

Type: Frequency Report

Date: 9/26/2009

Total number of responses collected: 156

Part A: Carefully read each statement below and respond by checking one box to the right of each statement.

		Strongly Agree	Agree	Disagree	Strongly Disagree	N/A or No Opinion	Total	Mean	Std Dev
1. The decision to participate in NC EMPT testing at your school is at the discretion of each individual math teacher.	Count	83	31	16	8	5	143	1.748	1.084
	% by Row	58.0%	21.7%	11.2%	5.6%	3.5%	100.0%		
2. If you registered online (rather than mailing or faxing the paper form), the online sign-up form was user-friendly and reliable.	Count	83	22	0	0	38	143	2.217	1.716
	% by Row	58.0%	15.4%	0.0%	0.0%	26.6%	100.0%		

3. The instructions provided for each teacher for paper-and-pencil or Web-based testing were clear and easy to follow.	Count	103	30	1	1	8	143	1.469	0.992
	% by Row	72.0%	21.0%	0.7%	0.7%	5.6%	100.0%		
4. Test administration took a total of 55 minutes or less.	Count	71	42	20	1	9	143	1.846	1.103
	% by Row	49.7%	29.4%	14.0%	0.7%	6.3%	100.0%		
5. Students were attentive and tested with a serious attitude.	Count	51	76	6	0	10	143	1.895	1.012
	% by Row	35.7%	53.1%	4.2%	0.0%	7.0%	100.0%		
6. The NC EMPT office promptly returned hard copies of test score summaries for teachers and individualized results letters for students.	Count	109	29	0	0	5	143	1.343	0.806
	% by Row	76.2%	20.3%	0.0%	0.0%	3.5%	100.0%		
7. The test score summary received by each teacher for each class period was helpful.	Count	105	33	0	0	5	143	1.371	0.811

8. The lime green brochure titled "Mathematics Placement Procedures at NC Community Colleges and UNC Constituent Institutions, 2008-2009" was included in each teacher's results package. This brochure was useful to teachers in advising college-bound students.	% by Row	73.4%	23.1%	0.0%	0.0%	3.5%	100.0%		
9. The NC EMPT website at www.ncempt.org is useful and informative.	Count	80	37	1	0	25	143	1.972	1.468
	% by Row	55.9%	25.9%	0.7%	0.0%	17.5%	100.0%		
10. Participating teachers took time to review test errors with students.	Count	40	52	22	5	24	143	2.448	1.377
	% by Row	28.0%	36.4%	15.4%	3.5%	16.8%	100.0%		
11. Students found their individualized results letters easy to understand and	Count	71	57	1	0	14	143	1.804	1.164
	% by Row	49.7%	39.9%	0.7%	0.0%	9.8%	100.0%		

informative.										
	% by Row	49.7%	39.9%	0.7%	0.0%	9.8%	100.0%			
12. Students found their NC EMPT experience helpful and useful for future college plans.	Count	56	63	4	0	20	143	2.056	1.299	
	% by Row	39.2%	44.1%	2.8%	0.0%	14.0%	100.0%			
13. The NC EMPT Program accomplished its goal of providing your participating high school students with a "reality check" of their readiness for college-level mathematics.	Count	92	41	1	0	9	143	1.552	1.012	
	% by Row	64.3%	28.7%	0.7%	0.0%	6.3%	100.0%			
14. The NC EMPT Program will accomplish its goal of helping to reduce the percentage of incoming college freshmen that require mathematics remediation at the college level (consider the	Count	56	64	6	0	17	143	2.007	1.230	

seniors from your high school that participated in the program and plan to attend college in fall 2009).												
	% by Row	39.2%	44.8%	4.2%	0.0%	11.9%	100.0%					
15. Overall, the NC EMPT Program provides a valuable service to high school students and teachers.	Count	101	36	1	0	5	143	1.406	0.824			
	% by Row	70.6%	25.2%	0.7%	0.0%	3.5%	100.0%					
Total	Count	1196	651	80	15	203	2145	N/A	N/A			
	% by Row	55.8%	30.3%	3.7%	0.7%	9.5%	100.0%					

#16. In an effort to update and realign with current college math placement tests, the 2008-2009 NC EMPT test questions were substantially different from those found on earlier versions of the test. Please comment on the diversity and difficulty of the questions.

Number	Comments About Diversity and Difficulty of 2008-2009 NC EMPT Test Version
50	<i>A good upgrade; I like the improvement in the diversity of the content; questions were appropriate and a fair measure of college math placement tests; a good sampling of all the mathematics skills students should have learned throughout high school.</i>
26	<i>My students found the new questions much more difficult than those from previous years; definitely a harder, but better test; more challenging; the old version was too predictable and too easy for students completing Algebra II; the typical scores in our classes were lower than in previous years.</i>
7	<i>I appreciated more “real-life” word problems; not so mechanical, required some thought and problem solving; a surprise as students were used to a more objective test format as opposed to the problem solving format; good change because students need to think more critically; questions not all process driven – several questions required students to do an additional step or two and/or make a decision about what process(es) to apply; questions were more thought-provoking.</i>
4	<i>Including trig and precalculus questions was an improvement; test questions went beyond Algebra II and included more college placement topics; many questions were not aligned with the Algebra II curriculum.</i>
3	<i>Glad to see geometry topics included; students struggled with geometry content because they didn’t recall the skills.</i>
3	<i>It was a great experience for our students, and for me as a teacher; some students had their eyes opened on their current readiness; good reality check for many.</i>
3	<i>Not using a calculator on the test increased the difficulty level; without a calculator, most of my students gave up on taking the test and guessed; I was shocked at how dependent the students are on a calculator.</i>
2	<i>It is outstanding that NC EMPT stays current with actual math placement tests given on college campuses across the state; I’m glad that you updated the test to more accurately reflect college math expectations.</i>
2	<i>The new test was not much different than the old versions; did not pay attention to the differences.</i>
2	<i>No response from my math teachers.</i>
2	<i>My students commented that they thought the test was easier than the earlier version.</i>
2	<i>This was the first time I’d seen the test so I can’t answer this question.</i>
1	<i>I found the new test more useful for seniors in Discrete Math and chose not to use it as an Algebra II end-of-course exam readiness test.</i>
1	<i>The change made it a little awkward to compare students’ general scores from those earned on prior versions of the test.</i>
1	<i>The new test was a close match to the NY State college math placement test.</i>
1	<i>I found out that I do need to do more with percents to help my students review.</i>
1	<i>There seemed to be a greater emphasis on exponential functions.</i>
1	<i>The new test was much more difficult for my students. It made me wonder whether the old or new test was more closely an indicator of whether students are ready or not.</i>
1	<i>I feel like the real thing is harder, however I do not know what is on the real thing.</i>
1	<i>Please send out another “Top Ten Missed Questions” sheet because I use these to help my students prepare.</i>

1	<i>The trig questions could be harder.</i>
1	<i>The question that referred to 2/3 as .666 confused my calculus students. This may be because AP Calculus rounds or truncates to the third decimal place.</i>
1	<i>The new test is more realistic for SAT and COMPASS testing, also for the Algebra II end-of-course test.</i>
1	<i>Some students develop a “cocky” attitude which does not serve them well. This year’s students had lower scores and these scores were probably a more realistic portrayal of their math abilities.</i>

#17. If you used the NC EMPT Web-based avenue of testing, please tell us what you liked about it and make any suggestions for improvement.

Number	Positive Comments About Web-based Testing
6	<i>Web-based testing was easy to do; convenient; well-designed; with directions in front of me, the website was easy to use. (However, if I didn’t have step-by-step directions, I would never have guessed correctly what to click.)</i>
6	<i>Prompt and immediate reporting of scores; students were able to identify questions answered incorrectly while the questions were “fresh” in their minds.</i>
3	<i>The experience of students taking a test online is invaluable as it is a common form of testing in college.</i>
2	<i>My school has initiated a laptop program. Web-based assessment was a perfect fit and a great idea.</i>
2	<i>I liked the fact that students could access the test from any site (home, school, library, etc.)</i>
1	<i>I liked the fact that students could save each individual answer.</i>

Number	Suggestions for Improvement of Web-based Testing
7	<i>There was some confusion among my students about the “submit” button on individual questions; the students and I were very confused about which button to push: the one under each question or the final button at the bottom of the test - the directions were vague about this; Why can’t there be one “submit” button at the end of the test with all answers being saved, but changeable, to that point? You’d need to also provide one “save” button for folks that may need to finish their test at a different time.</i>
3	<i>Some students commented that their responses were lost numerous times and that they had to start all over again several times; this drastically affected their scores.</i>
2	<i>Students taking the test at home had difficulty navigating the WebAssign site. Off times, the site would freeze and prevent students from entering answers; students using Apple computers at home had problems.</i>
1	<i>After students click on the “submit” button, a window should appear that lets them know that their answers were submitted successfully. There is no way of knowing with the current software set-up.</i>
1	<i>The WebAssign tech staff was not responsive to e-mail or phone requests for help. Neither was addressed.</i>
1	<i>The test took longer than 55 minutes for my students who took the test seriously and I found I had not allocated sufficient computer time in the lab.</i>

#18. What other services or information can the NC EMPT Program provide you or your students with regard to college math placement testing?

Number	Requests for Other Services or Information
26	<i>None! The information you provide is detailed and wonderful, and the students are usually amazed; NC EMPT does so much already; keep doing what you're doing!</i>
7	<i>Your services are greatly appreciated; we appreciate your feedback and the individual results; we appreciate any help you can give us with regard to college math placement testing; letting students know expectations in advance and what test results mean is a valuable tool.</i>
4	<i>I liked the info. about which colleges allow calculators and which did not; it would be interesting to see which colleges use computerized placement testing and which use paper-and-pencil; tell us which colleges provide calculators during their placement testing; provide a list of when colleges do their actual math placement testing.</i>
3	<i>Let's go back to giving a pretest (Option#1) early in each semester, and then a post-test (Option #2) at the end of each semester. These two tests have provided me with insight into which math topics the students need to review and allows the students to see how much their math skills have improved from the beginning to the end of the semester.</i>
2	<i>Any additional practice materials (games, puzzles), frequently missed questions, or old tests would be very helpful for practice purposes.</i>
1	<i>I think an item analysis (how many students chose response A, etc.) might be helpful to see if the majority of the students who got the problem wrong were making a common mistake.</i>
1	<i>Information about math requirements and placement tests at various colleges needs to be in every high school guidance office.</i>
1	<i>I had many students attending college out-of-state. It would be useful to have information about placement testing at colleges and universities not in NC.</i>
1	<i>Some of my students asked if the NC EMPT score could be submitted in place of the placement test their college would administer. You might want to consider that for future tests.</i>
1	<i>Offer a test version for Algebra I students that is similar to the PSAT or SAT. I think more teachers would use the test at lower math levels.</i>
1	<i>Return test copies with answers and student scores for Web-based testing. It's tough to review a test if we don't have copies.</i>
1	<i>Provide some suggestions for students to remediate themselves. Maybe offer some mini-courses online that students can work through on their own.</i>
1	<i>Your information should include required AP scores at each of the listed universities. Perhaps you could give web-links for each university where more AP information can be found.</i>
1	<i>For my students who are thinking about majoring in some math related field, the test could be more challenging.</i>
1	<i>If a list of covered objectives or a pre-assessment could be given, that would be helpful; include a list of formulas that students are expected to know (remember) from previous courses.</i>
1	<i>Maybe have an online test that students can take on their own time to get feedback.</i>
1	<i>I need to test earlier in the year. The students did not take it seriously.</i>

DONE! THANK YOU FOR TAKING TIME TO GIVE US YOUR FEEDBACK!! If you have any other comments you'd like us to hear, please write them below.

Number	Additional Comments
16	<i>Wonderful program and fantastic service every time; you really make it easy for teachers to use NC EMPT and it is a great resource for students; thank you very much; keep up the good work; it is a pleasure to work with the staff at NC EMPT.</i>
5	<i>Ellen Hilgoe's organization and efficiency are unparalleled! Good job! Thank you, Ellen, once again for your assistance; Mrs. Hilgoe does a good job in promoting NC EMPT, giving energy to math teachers, and encouraging them to use the test.</i>
4	<i>I appreciate the service offered to our students; the students find the results very worthwhile.</i>
3	<i>NC EMPT test results make students realize the importance of taking math their senior year of high school; this is a great opportunity for our graduating seniors!</i>
2	<i>You guys do a great job; your turnaround time for results is amazing!</i>
2	<i>NC EMPT is a very useful tool in preparing students for college and would be greatly missed if cancelled.</i>
1	<i>We are glad you are back in operation this fall, especially after not being able to offer testing last fall.</i>
1	<i>Thank you for providing such an informative service. My students used the testing as preparation for the Algebra II state mandated end-of-course exam. They were also extremely interested in the information given about college math and placement tests. I think it increased the overall motivation going into our final exams. Please make sure we are included in next year's testing.</i>
1	<i>My students saved copies of the test to refresh their math skills just prior to their actual college math placement test.</i>
1	<i>Several of my students from the first semester of block scheduling requested to take the test again when it was scheduled in the spring.</i>
1	<i>Thanks for the opportunity to increase the size of our order at such a late date.</i>
1	<i>We gave the test without the use of calculators. Our students are so dependent on them. I think their scores would have been much better if they could have used a calculator.</i>
1	<i>My students were primarily 10th grade honor students. They did very well on the test and may think the placement test was not a challenge. They did benefit from the feedback with regard to the college they were interested in.</i>
1	<i>Thank you for the quick replies, positive attitude, and stickers!</i>
1	<i>Some students chose not to come to school on the day of testing. The others did not take the test seriously. I think I waited too late to administer it.</i>
1	<i>The only disadvantage of NC EMPT is that we can't test Algebra II students due to the jam-packed curriculum. We honestly can't give up an hour that we need to do our EOC instruction. So we give the test in Advanced Functions and Modeling and/or Pre-Calculus classes where many students are seniors already. I would love to be able to test all juniors so that they could get the reality check. An online version that students could take at any time and get instant feedback would be so valuable for juniors in Algebra II.</i>

