Pre-AP Evaluation Brief, May 2014

Introduction

Welcome to the Race to the Top College and Career Readiness (RTTT C&CR) Evaluation Briefs, a series of publications written for participants in the Race to the Top evaluation being conducted by the UMass Donahue Institute (UMDI). The Briefs will share key findings from site visits, interviews, surveys, and observations. It is a high priority for ESE that you receive feedback from the evaluation. Your participation in the evaluation of the Pre-AP Advancing College Readiness program has been very helpful and greatly appreciated.

This brief will: (a) review the purposes and background of the Pre-AP program, (b) share findings from a teacher survey of participating schools, and (c) summarize findings from visits to three Pre-AP districts during the 2012–13 school year.

The purposes of the Advancing College Readiness program are:

- To increase the number of low-income and minority students prepared to participate and succeed in mathematics, science, and English AP courses and credit-bearing college-level coursework.
- To provide teachers in grades 6-12 with high-quality professional development to assist them in developing curricula, instruction, and assessments that prepare students for AP coursework.
- To provide an opportunity for teachers to collaborate in horizontal and vertical teams and to network with other teachers in their region for the purpose of improving curriculum and instruction.

Districts are participating in the program in multiple configurations. Districts that are using funds from RTTT Project 4D committed to sending the same teachers for four-day trainings in three consecutive summers or school years, and to create discipline-specific vertical teams, led by Pre-AP trained lead teachers, that meet four times per year to share and deepen their Pre-AP practices. Other districts have created several variations of the basic training configuration. Districts selected different combinations of disciplines among the mathematics, science, and English language arts (ELA) trainings offered. The percentage of all teachers in a given district, school, and discipline who are being trained varies widely, from just one or two teachers to the entire department.

Findings from All Participating Schools

Through the end of the 2012–13 school year, 1,152 teachers had completed at least 3 days of Pre-AP training through the RTTT Pre-AP program. Of those teachers, 43% were trained in ELA, 36% in mathematics, and 21% in science.

A survey was sent to teachers who had completed at least one day of Pre-AP training (N=1,253), and 40% (n=504) responded. Most teachers reported that, as a result of the Pre-AP program, their awareness of the importance of using Pre-AP strategies had increased (83%), they had increased content knowledge in their primary discipline (71%), they teach more Pre-AP content (75%), and they use more Pre-AP pedagogical strategies (74%). About half of teachers reported that, as a result of the Pre-AP program, they use more Pre-AP assessment strategies (54%), their personal teaching philosophy had changed to be more consistent with that of the Pre-AP program (54%), and implementing the Laying the Foundation (LTF) lessons and/or assessments represented a substantial change in their teaching practice (49%).
When asked what was the minimum number of LTF lessons and/or assessments that their school or district expected them to implement during the current school year, 63% reported that that their district did not have a minimum expected level of implementation. Of those who did report a minimum expectation, the average was 5.8 lessons and/or assessments, with a range from 0 to 20. This was a substantial increase from the average of 2.4 reported in the previous year’s survey, suggesting that school and district expectations for implementation are increasing. Teachers also reported an increased number of times accessing online materials from the LTF website, with an average of 11 times during the 2012–13 school year compared to 6 times during the 2011–12 school year.

With regard to program quality and relevance, most teachers agreed that the LTF lessons and assessments are examples of high-quality pedagogical practices (88%) and that the Pre-AP program will be effective in improving students' preparedness for success in AP-level coursework (83%) and college coursework (83%). More than half of teachers agreed that implementing LTF lessons brings greater relevance to their classrooms (62%).

Findings from Three School Visits

UMDI conducted full-day visits to three Pre-AP districts that were in their second year of Pre-AP implementation and served a high percentage of at-risk students. Each school was focusing on one of the three Pre-AP disciplines (i.e., mathematics, science, and English language arts). The site visits included interviews with a middle school classroom teacher, a high school classroom teacher, a Pre-AP lead teacher, and an administrator, as well as observations of a vertical team meeting and a teacher delivering an LTF lesson.

Implementation of LTF activities and assessments. Interviewed teachers reported having conducted from 5–20 LTF lessons per year, and that they typically implemented more LTF lessons than were expected by their district. Most teachers reported that conducting each LTF lesson (including labs) required 2–3 class days, with the exception of a teacher whose classes were 90 minutes long and could sometimes complete an activity in a single class period. Completion time also varied based on the type of LTF lesson, with some lessons described as more worksheet-based and requiring less time to complete, and others described as more product- or project-based and requiring more time to complete.

In the ELA district, multiple teachers emphasized that their district is utilizing Pre-AP strategies extensively, even in activities that are not LTF lessons. For example, they have incorporated text annotation and dialectic journals as tools for increasing the depth of students’ knowledge, and they ask students to apply these strategies across grade levels and with a wide range of texts and genres. Nonetheless, these ELA teachers also reported conducting specific LTF lessons.

Teachers reported utilizing LTF assessments much less often than LTF lessons, with three out of six teachers not using them at all. Only one teacher reported using them extensively—she estimated 17–20 times—but typically she only drew a few items from an assessment that contained many items. Another teacher said she had used LTF assessment items as warm-up or partner activities, but for formal assessments she felt that she needed to use more standard assessments prescribed by the district. One teacher reported that she is much more focused on using sample MCAS and PARCC items, particularly because students’ MCAS performance is now a consideration in teacher evaluations in their district. Finally, one teacher said that the content of LTF assessments doesn’t match the content in the school’s required text materials.
**Changes to classroom practice.** Teachers were asked if they had made changes to their teaching and assessment practices as a result of the Pre-AP training. One of the mathematics teachers reported that she is conducting more formative assessment than before, and both mathematics teachers reported conducting more small-group activities that add an element of exploration and discovery:

> The Pre-AP lessons have less of the whole-group activities, and give the kids more working together. Previously, it’s been lots of whole-group, talking at the students, telling them, “This is how you do it.” LTF really lets them discover it on their own, as I guide them. They need that guiding to jump start them, especially at the middle school level, but it has changed a lot—less of me talking, more of them doing the work.”

The other mathematics teacher said,

> I definitely expect more from my students than I did previously. I’d say that the rigor has definitely gone up, and, as a result of that, they have surprisingly risen to the occasion. You still have students who aren’t going to persevere through the problems as much, but for the most part it’s been quite a pleasing surprise to see that students do react quite positively to the activities.

When asked what she meant by increased rigor, this teacher described LTF providing opportunities for students to think more independently and to have their own ideas about mathematics. This teacher also said that what she has learned through Pre-AP training has made her feel that being more creative and fun in her teaching is acceptable and desirable. She described activities she had recently created related to current television shows and movies that were fun for students, but still rigorous, and she didn’t think that she would have created and taught those types of activities before the Pre-AP training.

One administrator described this type of shift as requiring courage from teachers, “because it’s moving away from the comfort of the textbook, having to give up more of being the one leader of the class. Instead of standing up there and running the lesson, they’re actually letting the students kind of figure out the math by doing the LTF lesson. And that’s hard for some people to do.”

One science teacher noted that the LTF labs provide strong opportunities for differentiation, so she can use the labs with all four levels of classes she teaches, and her more advanced students can progress to more advanced material when they have completed the standard aspects of the lab. The other science teacher appreciated that the LTF labs focus on building students’ ability to use scientific methods, even if those labs don’t specifically target content standards of the Massachusetts curriculum frameworks. One English teacher said that the Pre-AP program has brought new, valuable practices to the English department, including asking students to synthesize multiple, unfamiliar texts on demand, as well as a new focus on non-fiction texts and grammar, which she believed would be helpful both on the AP English Language exam and in daily life.

Across disciplines, all teachers said that they were implementing LTF activities with all students, not just with the most academically advanced students. The primary difference across students of different academic ability levels was the amount of scaffolding and modification of materials necessary, with teachers asking some students or classes to complete a greater number or greater difficulty of items than others, or to do so more independently.

Increases in use of technology (e.g., calculators, probes, spreadsheets) as a result of Pre-AP training were reported by most mathematics and science teachers, due to greater exposure to these tools during LTF training and vertical team meetings, as well as availability of quality LTF activities which draw on
technology tools. A major obstacle was that the mathematics and science districts had very limited access to graphing calculators, probes, and computers. Accessing these tools often required advance planning and communicating with technology personnel, so teachers couldn’t count on being able to access these tools spontaneously or just have them around for students to utilize.

One teacher also noted that many LTF activities required materials that were unavailable or required more set-up time than was possible in the few minutes between class periods; she tended to focus on the activities that avoided these challenges. Administrators reported that they were attempting to obtain funding for additional classroom resources.

Structures for promoting implementation. To promote implementation of Pre-AP activities, schools and districts used diverse strategies, ranging from supports to requirements. The Massachusetts Math + Science Initiative (MMSI), which has provided training for the Pre-AP program, developed a spreadsheet and Moodle site for one district that enabled teachers to quickly identify LTF mathematics activities that corresponded to specific Common Core State Standards. Another district features an ELA instructional strategy during each department meeting and often during common planning periods, and these strategies are frequently selected from LTF materials. In one district, a lead teacher who was also a district administrator reported conducting LTF labs in individual classrooms in order to make it easier for classroom teachers to become familiar with and adopt new labs.

All three site visit districts created forums—including vertical team meetings, curriculum meetings, and common planning periods—for teachers to discuss LTF activities they had conducted, and to share student products from those activities. This included both successful and unsuccessful activities, to help fellow teachers decide which ones to utilize in their own classrooms, and to help administrators identify activities for possible inclusion in district curriculum documents.

One district had a required level of LTF implementation, whereas two districts had recommended levels. The mathematics district recommended that teachers implement at least one LTF activity per year in each of the discipline’s five curriculum domains. The science district created a list of about five LTF labs at each grade level that all teachers in the district, including those who were not trained in the Pre-AP program, were strongly encouraged, but not formally required, to implement. The Pre-AP trained science teachers were encouraged to support other science teachers with implementing these labs, including offering to co-teach the labs.

In contrast, the ELA district has specified a set of LTF activities and strategies that are required for classes in all four grades of the high school, and implementing the lessons is required whether or not teachers participated in the Pre-AP program. Similar to the science district, the ELA teachers are expected to share the required Pre-AP lessons with their colleagues during common planning periods.

Administrative oversight and evaluation are also used to promote Pre-AP implementation, although no administrators reported incorporating LTF activities into the state’s new “SMART goals” framework for teacher evaluation. Strategies that administrators reported utilizing include:

- Requiring teachers to bring student work from LTF activities to curriculum meetings.
- Incorporating LTF activities into binders that teachers create for their own evaluations.
- Requiring teachers to maintain a log of LTF activities they have conducted, materials they have obtained from the LTF website, and materials they have shared with colleagues; and requiring teachers to submit this log in advance of each vertical team meeting.
• District-level administrators conducting classroom walkthroughs that include looking for evidence of teachers using LTF activities or strategies, and then following up with principals or department chairs to determine if there’s a reason for observed gaps or to encourage them to discuss observed gaps with teachers.

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