Introduction

Welcome to the RTTT College and Career Readiness Evaluation Briefs, a series of publications written for participants in the evaluation being conducted by the UMass Donahue Institute (UMDI). The Briefs will share key findings from evaluation site visits, interviews, surveys, and reports. It is a high priority for the Massachusetts Department of Elementary and Secondary Education (ESE) that you receive feedback from the evaluation. Your participation has been very helpful and greatly appreciated.

STEM-focused Early College High Schools

In its RTTT proposal, ESE proposed to open six STEM early college high schools (ECHS) to prepare students for productive STEM careers, to reduce achievement gaps, and to provide an accelerated pathway to postsecondary education for underrepresented students, by partnering with colleges and providing students with opportunities to earn up to two years of college credit while still in high school.

Six districts were chosen in a competitive process, and this Brief focuses on results from a series of interviews and site visits conducted in February and March 2012 with administrators from the six STEM ECHS sites. Phone interviews were conducted with the four sites that weren’t yet open for students, and in-person interviews were conducted during site visits to the two implementing sites. Future evaluation briefs will report on findings from other data collection activities, including focus groups with school personnel and interviews with college partners.

Planning Successes

District representatives were asked to identify successes and challenges of their grant’s planning phase. Reported successes were fairly consistent across sites, and a summary of the most frequently cited successes is provided below.

Planning teams. Five of the six districts described assembling a planning team as a successful phase of their planning process. Each said that a key to successfully assembling a planning team was including representatives from diverse stakeholder groups. All districts included school administrators and representatives from partner institutions of higher education (IHEs), including key faculty, on their planning teams. Some districts also included guidance counselors, union representatives, department heads, district-level administrators, representatives from partnering middle schools, other educational leaders, and relevant content experts. Several interviewees said that it was also important to recruit volunteers to serve on the planning committee. Interviewees said that including diverse stakeholders had fostered support and buy-in for their work.
The structure of planning team meetings was similar across sites. Teams and subcommittees held meetings weekly, biweekly, or monthly. Several interviewees said that supports provided by Jobs for the Future (JFF), the technical assistance vendor for the STEM ECHS initiative, had been useful in identifying topics that needed to be addressed by the planning teams. Consistent collaboration among members of the planning team was seen as essential to their success, although team members’ many commitments made it difficult to meet on a regular basis. All interviewees were pleased with the level of commitment, skill, and ability demonstrated by members of their planning teams.

**Strong support from school and district leaders.** Five of the six districts cited support from district leadership as a success, and several said that this support was essential to the planning process. They reported that their district and school leaders were generally responsive, positive, supportive, and helpful. Some also said that it was important that district leadership had expressed a strong commitment to the project and a willingness to participate in the planning process and assist with challenges. One interviewee said, “We have the support right from the top, which is the superintendent. That does not always happen...The district leadership has to be aware of the decisions that are being made and has to support the work that is being done. That is the biggest hurdle.”

**Establishing and formalizing relationships with IHE (and other) partners.** Five districts said that they had established strong working relationships with their IHE partner. Four said that IHE representatives regularly attended planning team meetings and were viewed as an important part of the planning team. IHE partners were also willing to share expertise, contribute ideas, and assist students in their transition to a college experience.

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**Planning Challenges**

STEM ECHS sites reported facing significant and varied challenges in the planning process, as summarized below.

**Sustainability.** All districts said that sustainability was a significant challenge, agreeing that they had adequate funds to launch their STEM ECHS projects, but lacking confidence that the projects would survive over time without additional funding. Several districts said that developing and launching a STEM ECHS was expensive, and that staff development, curriculum development, planning time, and supplies were all major planning expenses. These districts also said that funding to support student participation in college courses was tenuous, and that cost structures and articulation agreements with IHE partners were still being negotiated. One interviewee said, “Sustainability is the huge, giant, 800-pound gorilla in the room that I think about all of the time.” Another said, “Funding college courses will come down to the money that is available for this. Ultimately, there is going to be a need for a sustainability plan.”

Some districts said that they were beginning to discuss strategies for securing additional funding, and most said that they anticipated working harder on sustainability over time. Ideas to promote sustainability included:

- Altering recruitment practices to attract students from other districts;
- Hosting fund-raising events;
- Exploring cost reduction strategies with IHE partners, such as grants, rate reductions, and purchasing courses;
- Securing support from business and industry partners, and other donors; and
- Applying for grants from public and private funding agencies.
Budgeting. Three districts identified budget management as a challenge. One noted a lack of clarity regarding the amount of funds available and how those funds could be used. Another wanted greater clarity in the budgeting process, because state funds for middle school and high school activities had traditionally been combined and then reallocated at the district level. A third interviewee said that the STEM ECHS coordinator did not have the autonomy to make funding decisions for the program, which resulted in some delays.

**Instructional design, curriculum development, and assessment.** Three sites said that they had not made as much progress with instructional design and curriculum development as they had hoped. Each believed that they had established a clear process and put in place the appropriate supports for this work. One site reported concerns about the curriculum development process, because their district had asked them to delay this work until a larger plan for the project was in place. Another site was concerned about curriculum development because their staff members were still receiving the training needed to implement the target curriculum. One interviewee said, “Making sure we have a solid plan for the curriculum and programming, and making sure we have all of the resources in place to do what we say we are going to do, is an area of concern. Whenever a school starts something new, that should be an area of concern.”

**Staffing.** Three districts reported staff-related challenges. One interviewee from a relatively small district said that the capacity of their staff was limited and that they were constantly being asked to “do more with less” and assume multiple roles. This lack of staff capacity also limited the number and types of courses that could be offered. Another interviewee said that staff turnover was a challenge. A third interviewee was concerned that the current staff might lack the skills to teach some of the courses that had been envisioned for the STEM ECHS.

**Engaging the community.** Three districts said that engaging the community was a challenge. Two said that parent/guardian and community interest and involvement in school-sponsored activities was typically minimal in their districts. One of these districts reported that their project had repeatedly made efforts to contact parents and community members, but with little success. The other site reported that they had not tried to explain or promote their STEM ECHS project to the broader community, due to insufficient time and money. One interviewee described the challenge and goal of engaging the community by stating, “How do we engage our community in a fashion to show them that through the development of this new school we were going to be doing the best for all kids in the city?”

**Communication.** Several districts reported challenges related to the quality, frequency, or clarity of communication. Two said that it was difficult to communicate with parents/guardians, and another reported difficulty communicating with their IHE partner. A third said that it was sometimes difficult to communicate with district leadership. One interviewee said, “When you are recruiting students, informing parents, talking to teachers…it is a tall order to make sure that people have a consistent conceptual understanding of what is supposed to happen, how it is supposed to happen, when it is supposed to happen, what we hope to accomplish, and all of those things.”

**Making connections between middle schools and high schools.** Three sites are attempting to integrate middle and high school learning experiences into a comprehensive STEM ECHS experience, and they reported that substantial additional planning will be needed to accomplish this successfully.

**Continuity.** Two districts reported challenges in maintaining the continuity of their planning team. A change in one district’s school leadership had caused significant change to the planning committee, which disrupted the group’s work. A second district had concerns about continuity of their planning committee’s work, because some members were only assigned to the project for one year, and other members seemed to have limited interest in serving on the committee for more than one year.
Union concerns. Two districts reported that addressing concerns expressed by their local teachers union had been a challenge. In one district there was a concern that the STEM school’s smaller class sizes were not equitable, and in another district the union was concerned that the agreement being negotiated with the IHE partner might eliminate union jobs.

Suggestions for Planning

Interviewees offered the following suggestions to others who are developing a STEM ECHS:

- **Schedule adequate planning time.** Having a minimum of a 12-month planning period is a realistic timeframe for planning the launch of a STEM ECHS. Schools and districts should be aware that launching a STEM ECHS is difficult and that they should set aside sufficient time and resources to address challenges as they arise.

- **Visit other STEM ECHS sites.** Visit other sites and get information from people who have already launched their programs. It is difficult to anticipate challenges if you do not talk to people who have been through the process. These individuals can offer valuable insights.

- **Build interest and awareness of the program at the elementary and middle schools.** Go to elementary and middle schools to build interest in the STEM ECHS within your district. This will help foster support for the program in the district and community.

- **Identify a point person for the project.** There should be a “point person” for the STEM ECHS project. Ideally, this person’s sole responsibility would be to coordinate the planning and implementation of the program.

- **Build the program from the bottom up.** Building a strong foundation of student success prior to offering college courses is important. Start with a group of 9th graders, for example. Give them the support they need. Have a variety of courses available, as well as a planned course sequence.

- **Work closely with your IHE partner.** Your IHE partners may have a lot to offer and play a critical role in program development and implementation. IHEs may see the STEM ECHS as a money-making proposition, and it is important that schools and IHE partners see the collaboration as a “win–win” situation that is not confined to finances. The broader interests of the school and of the IHE partner should be well aligned. It may also be valuable to explore your IHE partners’ capacity and interest in conducting research at your site related to the development and success of the STEM ECHS project. Work with your IHE partner to develop a clear articulation agreement. Plan a transitional experience for the students who will be taking college courses with your IHE partner.

- **Identify concepts central to the work.** Two concepts that everyone involved in STEM ECHS should agree upon are that (a) the STEM ECHS should be available to, and in the best interest of, all learners, not just high achievers; and (b) STEM comes first – the focus needs to be on sustaining and strengthening the STEM pipeline.

- **Link the STEM ECHS to higher education and industry partners.** Making meaningful connections among school systems, higher education, and industry is key.

- **Combat a lack of support with clarity and honesty.** Be transparent with your partners, and be willing to answer questions and address challenges as they become apparent.