

***ASM Materials Camp®–Teachers:  
A Discussion of Practices and Recommendations  
from the 2011 Summer Camp Hosted by Ivy Tech Community College–Northeast***

***By Lisa A. Smith and Patrick H. Buesching***

***Background***

The success of last year's ASM Materials Camp®–Teachers at Ivy Tech Community College–Northeast was due in large part to support from the college and the community. The idea of hosting the summer camp came through conversations with business owners and community leaders in northeast Indiana. It became apparent that area employers need additional workers in Science, Technology, Engineering and Math (STEM) fields today and in the future given the large amount of advanced manufacturing jobs in the region.

A planning committee at the college took this feedback to the next level. The committee determined that secondary-school students might become more excited about pursuing STEM studies and careers if their teachers were introduced to lesson plans and experiments involving materials science. For each teacher who is passionate about a subject comes the opportunity to inspire more than 1,000 young minds over time. As further validation to intervene, ever-increasing research supports the need for students to be exposed to project-based learning opportunities early in their academic lives. Because of this, it is important to provide teachers with the tools and creative ideas to help spark the interests of middle and high school students in STEM fields. These factors helped the college reinforce its commitment to the region's economy—a commitment that could be addressed, in part, by a summer STEM camp for teachers.

Ivy Tech–Northeast's chancellor, Dr. Jerrilee Mosier, brought a significant amount of knowledge and information about ASM from her previous workforce and economic development position at Edmonds Community College in Lynnwood, Wash. Dr. Mosier identified ASM as a resource to offer a STEM project-based learning experience for local middle and high school teachers. To make this experience a reality, Ivy Tech–Northeast applied for, and was awarded, a professional development grant from the Talent Initiative.

The Talent Initiative is a 10-county regional program in northeast Indiana that focuses on accelerating education and training initiatives in STEM. It was established by a \$20 million grant from the Lilly Endowment. The purpose of a portion of TI's grants is to fund initiatives that support the professional development of educators and community leaders in project-based learning.

## ***Planning for Success***

We believe that one of the most important keys to a successful camp is to identify both stakeholders and their key goals. For example, some key stakeholders include the local ASM chapter, the businesses that employ their members and local schools. Others might include local economic development and government officials, as well as key internal stakeholders like food service, faculty, marketing, and of course, the bursar or business office function. The last two are particularly significant to discuss.

Budgeting and financial considerations are very important. We were fortunate we had the opportunity to pay the teachers a small stipend for attending. Setting up the mechanisms to pay these stipends, the invoices that were generated and finally the fee to ASM must be discussed and set-up early on to eliminate any problems with payments.

Finally, knowing your audience is critical to help with marketing and leveraging interested parties to support your local camp. Knowing the needs and goals of the regional partners helps with running a successful camp. For example, determining the dates of the camp was a process that was decided between Ivy Tech–Northeast, ASM, and the regional school schedules, as well as the availability of the ASM Master Teachers. These interrelationships are important to identify and leverage for success.

## ***Establishing Internal Relationships***

Establishing relationships internally is an important part of the process. We identified key departments within the college and engaged them in the decision-making process early on. Meetings were conducted with the facilities, marketing, food service, and science departments, as well as the person in charge of K–12 initiatives. Each of these departments played a role in making the camp successful. By using their expertise, we were able to begin building a plan for success.

## ***Marketing***

Marketing the camp to the appropriate audience was a very important step in the planning process. Through the help of our internal director of K–12 initiatives, we were able to go to the Indiana Department of Education (DOE) website and locate the names and school locations of the regional STEM and art teachers who were currently teaching at our target level. Letters and flyers announcing the camp's objectives and details about it were mailed to these teachers, as well as the regional principals and superintendents who would be able to pass on the information to interested staff. The mailing was delivered to their respective school before the spring break holiday and was followed by a large reminder postcard two weeks later. After the initial flyer, we had more than 85 percent of the spots filled for the camp. Ivy Tech–Northeast's marketing department was also key in designing a web-based link and landing page that teachers could go to when wanting more information or to register. Marketing also sent out several press releases to local papers and publications as we inched closer to the camp's starting date.

### ***Facilities***

Our facilities department helped determine the best location on campus for the camp to take place. We had a brief conference call with the ASM Master Teachers to go over equipment, classroom and lab needs for the camp. A representative from Ivy Tech–Northeast’s facilities department was also present for this call. It was determined that our Student Life Center was the best choice for the location. We were able to reserve two wet labs, one dry lab and a classroom for the instructional part of the camp. A conference room was also reserved for the week that would be used for the guest speaker presentation, daily snack times and for our opening comments as well as our final luncheon. This conference area was located in the same building as the labs and classroom, and it gave the teachers a break and a place to network with other teachers away from the planned learning environment. It was determined that for convenience, lunches would be served in a restaurant also located in the Student Life Center building.

### ***Food Service***

The next step in the camp’s planning process was to meet with our on campus food service department to plan for the daily snacks and lunches, as well as the final luncheon and closing program. At this point in the process, we had already registered a teacher who had some special dietary needs and our food service people were very willing to plan in advance to have food choices that would work for her. The snacks and lunches at the camp were informal and provided time for the teachers to network with each other. On the final day of the camp, we served a more formal meal.

### ***Best Practices***

#### ***ASM Master Teachers***

The information the ASM Master Teachers provided through phone and email communication was instrumental in making our camp a success. Helpful hints were provided about what supplies were needed and how we would need to set up the facility so the flow of the camp would go smoothly. Good communication with the Master Teachers was a crucial aspect of the camp’s success.

#### ***Camp Manager***

One of the decisions made early on in the planning process that ended up being a best practice was the assignment of an Ivy Tech–Northeast contact person who was assigned to manage the camp. This same individual was also the contact person during the week of the camp. The Camp Manager was available to help with any questions or concerns during the week, as well as serve as a contact person for the student assistants who were hired. This person functioned like a concierge and was an invaluable resource for all parties involved with the camp. Because this camp was funded by a grant, the Camp Manager was able to provide great feedback because of being engaged with the teacher participants on a daily basis throughout the entire week.

### ***Communication with Participating Teachers***

Once teachers were registered for the camp, we collected additional information for communication purposes. Prior to the registration of the individual teachers, we only had the school contact information. Due to the camp taking place in the summer, we asked for a personal email address as well as their home address. This information was used to stay in steady contact with the registered teachers prior to the camp. Several email reminders were exchanged and registration packets with maps and general information were mailed to the participants just prior to the camp. Due to this best practice, we were able to effectively identify registered teachers who would no longer be able to attend and were then able to select other teachers from a waiting list that had been compiled.

### ***Student Workers***

The ASM Master Teachers requested access to student workers who would assist in the set up and cleanup of the hands-on lab experiments. These students were hired through recommendations from science department faculty and other Ivy Tech–Northeast employees. We chose to hire students who were current or former Ivy Tech–Northeast students and had some familiarity with the school, as well as the camp objectives and general lab duties. The camp is fast-paced and requires active and ongoing engagement by the student workers in order to run smoothly. It is important to make sure these workers have some familiarity with the lab, science experiments and also have good communication and work skills.

### ***Materials Needed***

Through communications with ASM and the Camp Manager, it was determined which materials were already present at the college and which ones would need to be ordered. The ordering process for many of the supplies was handled by the ASM Master Teachers. All ordered materials and equipment, along with the Master Teachers' own equipment, was mailed to the Camp Manager at Ivy Tech–Northeast. All boxes were stored together until the setup of the camp.

### ***Setting up Materials***

The Master Teachers arrived in Fort Wayne the weekend prior to the start of the camp. The Camp Manager, Master Teachers and one student worker met on a Sunday afternoon prior to the Monday start date to unpack the materials and organize the lab that would be used. This allowed the Master Teachers to familiarize themselves with the facility and equipment. Several hours were spent organizing and completing an inventory on the supplies that had arrived earlier. Good preparation is important because the camp is very fast-paced and hands-on, and there is very little time to make up for a lack of preparation.

### ***Signage***

The Camp Manager made sure that clear signage was present throughout the building. Due to the distance between the conference area, the labs and the restaurant that was used for lunches, we had effective signage visible throughout the entire week.

### ***Security and Access***

During the camp, both the classroom and lab areas were in continual use, although when participants went to the conference area, it was necessary to lock the rooms for security purposes. Classroom and lab keys were made available to the Master Teachers, so they were able to lock and unlock the different rooms when they were not being used. This also became a best practice so that the Master Teachers were able to obtain access in the mornings when they arrived and also when they were finished in the evening.

### ***Transportation of Materials***

A large cart that can be pushed between the labs and classroom is a must. Materials need to be transported between the rooms consistently to keep the pace of the camp moving. The student workers will be setting up, preparing materials and cleaning up experiments, while the teachers are in the classroom prepping for other labs. Having one or two carts available to the Master Teachers makes this process much easier.

### ***Tour***

ASM asked us to set up a tour of a business or industry that had a hands-on activity component included. Because of safety requirements at some of the local businesses we contacted, it was decided to make use of the advanced manufacturing equipment located in the new Steel Dynamics, Inc. Keith E. Busse Technology Center on the Ivy Tech–Northeast campus. A tour was scheduled that would allow the teachers to tour this state-of-the-art facility, as well as work with two of the machines used in many advanced manufacturing businesses. The technology tour became a best practice through feedback from teachers. Many expressed how much they learned about what Ivy Tech–Northeast could offer their students, and even identified students who would benefit from a tour of the facility, especially when making future career decisions. A best practice for the tour is to include a hands-on, STEM-related activity for the teachers. This supports the mission of the camp, and it also reinforces the project-based pedagogy that is an important lesson for them.

### ***Closing Program***

The closing luncheon proved to be a very rewarding part of the ASM camp experience. The final luncheon is a time to give all of those involved an opportunity to share the highlights of the week. Teachers are given an opportunity to talk about ways they plan to infuse the information they learned into their classroom. The luncheon was in the same conference area that was used throughout the week, but the tables were grouped banquet style and food was served in a buffet line.

Key members of the Ivy Tech–Northeast staff, local ASM members and members of the Talent Initiative, from whom we received the training grant, were invited to attend the program. The programming

included encouragement from Dr. Jerrilee Mosier, an introduction to the special ASM guests and recognition of the Master Teachers and student workers. Both of the local ASM members spoke which included a demonstration by one member of a real-world application of how materials science is used to great benefit in their company. Finally, a representative of the Talent Initiative was asked to speak as part of the closing program. In a review of best practices it was reported that this opportunity was greatly appreciated and it demonstrated firsthand to the funder the value of the camp to participants. Giving the funder an opportunity to be involved with the camp including regular reporting, and participation in events is certainly a best practice to consider.

Certificates were also presented to the participants. During the presentation of the certificates, the teachers were asked to share a highlight from the camp, as well as share how the camp would impact their personal classrooms and teaching styles. The positive feedback from the teachers will be used to further the success of future ASM camps hosted by Ivy Tech–Northeast.

### ***Final Best Practices***

- **Consider funding teacher stipends if possible.** Financial incentives can be particularly important in areas where there are a plethora of summer camp opportunities for teachers. Our camp was funded by a grant that focused on getting STEM-related activities in the local middle and high schools, and we were able to fund stipends. Other options for funding might come from local industries, foundations, or the local ASM chapter.
- **Look to partner with a local university to offer graduate credit for the camp experience.** A number of teachers were interested in graduate credit for their participation, and a local university was able to provide this option. The tuition for these credits was to be paid by the teachers independent of the camp. ASM also offers options for graduate credit, but a local university's affiliation with the camp increased participation in this valuable benefit.
- **Keep a renewed focus on the marketing of the camp.** Funding is usually limited, so it is important to use a very targeted approach. We used letters and flyers targeted specifically to superintendents, principals and teachers before leaving for their spring break. Targeting allows for fewer mailings at a lower cost. Use existing public databases to identify interested parties. In our case, we were able to use the Indiana Department of Education website, which provided a robust list for the purpose of marketing our camp to secondary schools. Finally, use low-budget marketing tactics like email and telephone calls to engage the participants in the months leading up to the start of the camp. These touch points allow for a timely response to participants' needs. They also provide an opportunity to answer important questions that may otherwise get lost without contact that is arranged early and often.

### ***Future Lessons***

1. **Identify Key Business Office/Bursar Contact Person** – As discussed above, it is crucially important to make sure that the financial responsibilities for the camp are well planned. Our recommendation is to identify a key contact person as soon as possible in the process and make sure he or she is brought into the discussion early on. This is especially important if the payment

of stipends to participants is a key element of the camp. This recommendation also helps with managing any contracts (i.e., ASM), the payment of the student workers, any vendors, internal food service and security, if used, and finally the processing of invoices.

2. **Market to ASM Industry Partners Locally** – Getting the message out about the local ASM Materials Camp®—Teachers will allow the development of partnerships with ASM industry partners through local ASM members. This key recommendation supports the camp in a number of ways, including options for company tours and hands-on activities, participation by local ASM members during the opening and closing activities of the camps and finally it helps teachers connect with businesses for networking opportunities for their students. ASM is a strong and vibrant organization in many communities and business partners are often eager to support the camps.
3. **Manage Art/Math Teachers' Expectations** – The camp is very heavily engaged in activities related to hands-on science activities. It is recommended that non-science teachers understand the focus of the camps, so that they can look to leverage the related parts of the activities into their pedagogy. In other words, an art teacher may be looking at some of the hands-on activities to help support and bridge science into an art curriculum. The key is to look for the relevant connections that are appropriate to the teacher's background and find ways to support student learning and connectedness between subjects.
4. **Engage Local ASM Members Very Early in the Process** – Related to Point 2 above and discussions earlier in the article, engaging important stakeholders very early on helps support the camp and will ultimately make the camp more successful. It is our belief that ASM members want to be involved and are an important part of the success of the camp. Like other stakeholders, engaging them early and often gives them a sense of buy-in to the camp and makes the job of getting partners to participate much easier for the Camp Manager.
5. **Be Mindful of Camp Dates** – Teachers have many obligations that take away from their ability to attend summer camps. One of the best recommendations is to become aware of not only the start dates for the fall return to school, but also any required school orientations or trainings. Peak vacation weeks can also limit the available pool of teachers who may have a desire to participate. Finally, create a schedule of area summer camps that may be scheduled around the same time you plan your own camp's date. These competing camps may draw from your targeted teacher audience.

### **Final Thoughts**

Overall, the camp at Ivy Tech–Northeast was a resounding success. Teachers, ASM industry partners, ASM members and the national ASM group were very complimentary of our first-year effort with hosting the camp. We look forward to duplicating our success as we offer another summer camp this year. We firmly believe that by following our best-practice recommendations, our future camps will be even more successful than the first. The same degree of success is possible for your camp.

About the Authors:

**Lisa A. Smith** is currently the Assistant Director of Community Outreach at Ivy Tech Community College— Northeast. Prior to her current position, Lisa held the position of Corporate Trainer/Project Consultant with Ivy Tech Corporate College. Lisa served as the Camp Manager for the 2011 ASM Teachers Materials Camp at ITCC. Lisa has a Bachelor's degree in Elementary Education from Olivet Nazarene University.

**Patrick H. Buesching** is currently the Director of Ivy Tech Corporate College. Prior to his current position he was the Apprenticeship Coordinator for Ivy Tech responsible for managing both the construction building trade and industrial apprentice programs. He has a bachelor's degree from Indiana University - Bloomington in Public Affairs, and a Master of Business Administration from Taylor University.