

ADVANCED MANUFACTURING PROBLEM-BASED LEARNING

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NEWS

A PROJECT OF THE NEW ENGLAND BOARD OF HIGHER EDUCATION (NEBHE)

Located in Boston, Mass.

www.pblprojects.org

SPRING 2015

ISSUE FIVE

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AM PBL is a project of the New England Board of Higher Education (NEBHE) and is funded in part by the National Science Foundation's Advanced Technological Education program (NSF ATE) DUE#1204941.

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Field-Testing the AM PBL Challenges

The Advanced Manufacturing Problem-Based Learning (AM PBL) Project is the third content-focused project that has been developed within the New England Board of Higher Education's (NEBHE) PBL Projects. It currently consists of five multimedia Challenges with a sixth in development. The AM PBL Challenges are now available on the Challenges page of the PBL Projects website while the project's team is still working to enhance each Challenge and develop additional teacher resources. Feedback from "Field-testing" is essential for continuous improvement of the Challenges.

"Field-testing" is the implementation of a Challenge in the classroom. This past summer, 31 Science, Technology, Engineering and Mathematics (STEM) middle and high school teachers and community and four-year college faculty, including teacher educators, participat-



Students in a Manufacturing Technology class at Taconic High School in Pittsfield, Mass. work on the Hypertherm Challenge.

ed in a professional development workshop with introductions to problem-based learning and the NEBHE PBL Challenges. The field-testing process involves the following steps: after completing the Challenge in the classroom, instructors and their students fill out surveys designed to capture their experience.

[Field-testing continued on page 4](#)

New Updates to the PBL Projects Website!

Have you taken a recent look at the PBL Projects website? Our team has been working to update the website, located at www.pblprojects.org, to showcase the excellent work of our instructors and their students. Two very notable updates are the development of our Gallery page and the addition of our Testimonials page.

The Gallery page contains both video footage and photos categorized into four different sections: AM PBL Summer Institute, Challenge Industry Partners, Field-Testing and Professional Development. Each Gallery item contains up to six photos or a video from our YouTube channel (NEBHE PBL Projects) and a description of what is pictured. The Gallery items have been a great tool for sharing mes-

sages from the PBL Projects team, remarks from guest and industry speakers, and students in action working on PBL Challenges. Another new addition to the website is the creation of a Testimonials page, accessible from the headings bar, which contains quotes from industry partners, students and educators in an accordion-style drop-down list. These quotes provide a unique insight into first-hand experiences with problem-based learning and NEBHE's PBL Projects.

If you haven't seen our website recently, we hope you visit soon! The PBL Projects team is continuously updating the website and values your feedback. Please contact us at: pblprojects@nebhe.org if you have questions or comments. ■

Creating a PBL Engineering Program

By Alexander Pancic

While teaching engineering at Brighton High School in Boston, Mass., I have developed a curriculum that incorporates problem-based learning. I began my career in industry as a scientist and an environmental engineer, but always knew that eventually I would end up in the classroom. My past experience gives me a unique perspective on teaching. To me, problem-based learning is about an investment in the future. If industry leaders in New England were asked what skills they will look for 10 years from now, they would not be able to give a clear answer. Seventy percent of new positions opening up today were not even invented 10 years ago. Industry is changing quickly, but the one skill employers are sure to always look for is problem-solving ability. No matter what industry they're in, companies will be faced with challenges that they have never considered before, and employees with the skills to solve them will be key.

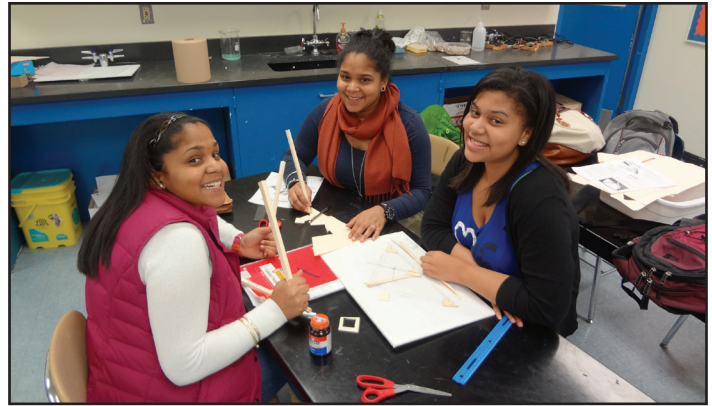
I first encountered the PBL Projects' methodology as a participant in the STEM PBL Project while teaching at English High School. Both English and Brighton high schools are largely made up of students from economically disadvantaged populations. Classes contain around 30 students with a wide variety of interests, abilities and future plans. Teaching to such a diverse audience is challenging, but I have found that using PBL engages many students who are otherwise less motivated in the classroom.

At English High School, I introduced the NEBHE PBL Challenge modules with content that was unfamiliar to the students so that they would have to confront their discomfort with the PBL process. The students' first inclination was to push back. They asked, "How do you expect us to learn something that you didn't teach us?" This is when the Whiteboards really made a difference. Whiteboards are a proprietary tool to help students analyze a problem, conduct independent research, brainstorm and test a solution. Using the Whiteboards to scaffold problems that students initially knew nothing about allowed them to break the information up into smaller, more easily learned chunks.

The fact that the modules are from real-world problems made a significant difference in how the students responded to them and how they felt about themselves after completing PBL Challenges.



Alexander Pancic works with students during a robotics learning module that required students to design, build, and program a robot.



Students in Alexander Pancic's engineering class work as a team to design their bridge prototype.

After we worked through the FloDesign Challenge, I brought my students to a working prototype of the FloDesign Wind Turbine on Deer Island in Boston Harbor. This proved to be one of the most valuable parts of their experience. My students spoke with two engineers who specialized in the FloDesign model turbine and had a higher-level conversation with the engineers than they would have thought possible at the beginning of the Challenge. They raised concerns and ideas that impressed the engineers. It was clear that the Challenge boosted the confidence of the students as they progressed from encountering a problem they knew little about to developing several correct and plausible solutions that the professional engineers had also considered.

When I began teaching at Brighton High School, I was tasked with creating an engineering curriculum. I used my experience with PBL to incorporate the structure of the PBL process into my lessons. My curriculum introduced students to several engineering disciplines. For each discipline, using an appropriate level of guidance, I would provide my students with enough information for them to build a model or solve a problem. After completing their first project, students would use their problem-solving skills to design an entirely new and innovative model. I realized that students are more interested in exploring new projects once they have background knowledge in the content area.

I have designed several PBL modules with various topics, ranging from how to rig a three-way light to designing shoes, planes, bridges, buildings and simple electronic devices. There is still some resistance from students as they are getting used to having to learn on their own. I remind them that although they think they don't know how to confront the problem, they can consider what the question is about and what they need to know to figure it out. PBL builds students' confidence in their problem-solving abilities, and by the end of the year, students have internalized the process and actually enjoy solving the Challenges. They are no longer dismissing problems as "too hard," but instead are asking, "What do I need to know to figure this out?" ■

Alexander Pancic is an Engineering Technology teacher at Brighton High School. He may be reached at:
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NEBHE Consults on KVCC TAACCCT Grant

Between 2012 and 2014, the AM PBL project Principal Investigator (PI) team consulted with Kennebec Valley Community College (KVCC) faculty members to implement PBL into their new Energy Services Technology program. As a result of this successful consulting project, the team was asked to work with KVCC's Center for Farm to Table Innovation that is funded through a TAACCCT-2 (Trade Adjustment Assistance Community College and Career Training) grant from the U.S. Department of Labor's Employment and Training Administration. The grant supports two associate degree programs: one in Sustainable Agriculture and another in Culinary Arts (SACA).

In November 2014, the AM PBL PI team provided a day-and-a-half training workshop to introduce the SACA faculty members to several of its STEM PBL Challenges. After the workshop, faculty chose to use either or both the Cape Cod Cranberry Growers or TTF Watershed Challenges with their students to introduce them to the PBL methodology and prepare them to develop their own Challenges to meet the instructional needs of their programs. During a January follow-up phone call, ideas were discussed for identifying authentic problems from advisory committee members or local business owners that could be turned into PBL Challenges.

At the end of March, the PI team returned to KVCC to consult with the faculty, review implementation activities and help them develop strategies to continue developing their own Challenges in collaboration with local industry partners. ■

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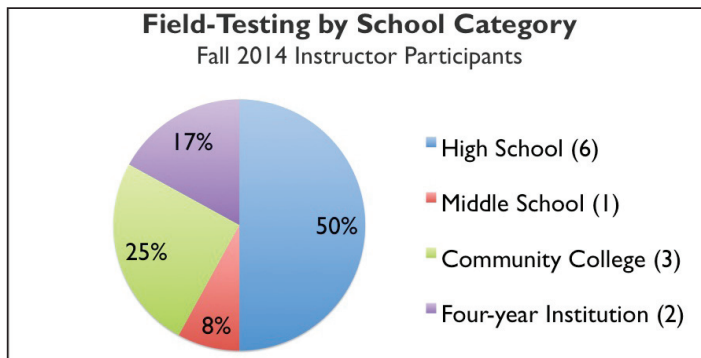
NEBHE Hosts Third Annual AM PBL Advisory Committee Meeting

On January 16, 2015, NEBHE hosted its AM PBL Advisory Committee meeting at its downtown Boston office. Seventeen of 23 members attended. Kelli Vallieres, CEO of Sound Manufacturing in Old Saybrook, Conn., chaired the business meeting. The morning was highlighted by updates from the project team, including an overview of the AM PBL activities during the past year and a report by PI Fenna Hanes on the 2014 professional development Summer Institute at Boston University. Hanes showed two videos that demonstrated the work of the project: In one, a middle school teacher relates his experience introducing his students to PBL, and in the other, a community college graduate shares his experience with the PBL Challenges in his college classes and their influence on his current work in industry. Both of these videos can be viewed in the Gallery on the PBL Projects' website: www.pblprojects.org/gallery-page. This was followed by an update from Co-PIs Judy Donnelly and Nick Massa on the development of the AM PBL Challenges and their alignment to academic and industry standards.

The highlight of the morning reports was a series of presentations by three advisory committee members: Heather Graham, director of the Office of Special Initiatives and Demonstration Grants at the U.S. Department of Labor, Region 1; Meeting Chair and President/CEO of Sound Manufacturing Kelli Vallieres; and Executive Director of the Regional Center for Next Generation Manufacturing (RCNGM) in Connecticut, Karen Wosczyzna-Birch. These presentations showcased activities that the AM PBL project team conducted in collaboration with advisory committee members to scale up outreach and conduct consulting activities.

After lunch, the committee members broke into three groups to address a series of questions related to NEBHE's interest in expanding its activities and services based on the interest and demand for its PBL services. Topics included scaling, outreach and dissemination, as well as staffing and funding sources for a PBL Center. The groups approached the discussion using PBL strategies, including working in teams and recording their notes on the PBL Whiteboards. Advisory Committee members reported their ideas to the group after their discussions. Findings from the discussion included ideas for new marketing approaches, building a strong database of evidence and engaging various funders for long-term sustainability. NEBHE and the AM PBL team sincerely thank the members of the Advisory Committee for their excellent support of the project's activities.

Additionally, we are pleased to announce the recent speaking engagements of two of our AM PBL Advisory Committee members. Wosczyzna-Birch presented at an annual League for Innovation Conference on March 8 in Boston, Mass. On March 17, Don Bossi, president of FIRST Robotics, was a panelist on Engineering Live, a video roundtable designed to spark conversation around key topics impacting design engineering. ■



AM PBL participants who field-tested during the fall 2014 semester included six instructors from high school, one from middle school, three from community college, and two from four-year institutions.

Instructors detail how they prepared students for the experience, how they assessed student learning, any resources they developed and any implementation issues they encountered. Similarly, students document their experience with the Challenges, particularly any issues they encountered and their engagement with the content area. Students also describe how learning with PBL has increased or decreased their retention of material compared to what they retain in a lecture-based setting. The information that the students and teachers provide is then used to create a Challenge narrative. Each Challenge's "Implementation Stories" document is available in that Challenge's Teacher Resources section. All of the stories are also found in the "For Educators" tab on the website under "Implementation" as both an example of the benefit of PBL and the breadth of hands-on activities, modes of assessment and grade levels for which the Challenges can be adapted.

At the beginning of the spring 2015 semester, three of the AM PBL Challenges—FastCAP, Hypertherm and IBM—had been field-tested by 12 teachers: one middle school teacher, six high school teachers (including one from Romania), two four-year university teachers (including a teacher educator) and three community college teachers. Additional field-testing will take place during the remainder of the semester. Teachers who have field-tested will present their findings from their implementation of the Challenges at the AM PBL Capstone Showcase in July. (More information on the Showcase can be found on page 7.)

AM PBL Testimonials:

"By following the structure of problem solving, it forces the discipline...to gather data. It's really a powerful process that we've seen work exceptionally well. I wish I had it in my career 30 years ago."
— Core Team Member at IBM, VT

"Participation in this project increased my confidence in my STEM skills. It helped me to collaborate with other students, ask questions and share my findings."
— High School Student at TechBoston Academy, MA

"I enjoy using PBL in my classes because I can see how it gives the students a good framework for solving any problem they encounter."
— Technology Instructor at Ponaganset High School, RI ■

NEBHE Initiates Pilot YouthBuild PBL Project with DOL/ETA Region I

YouthBuild, the most comprehensive and transformational federal program for out-of-school young people, is a national network comprising 273 programs in 46 states, Washington, D.C. and the Virgin Islands. YouthBuild offers a successful alternative education curriculum that annually assists approximately 10,000 low-income youths between the ages of 16 and 24 who are out of school and out of work.

YouthBuild addresses job readiness and educational credentials by providing education programs that result in GEDs or high school diplomas while students acquire job skills for industries such as construction, healthcare, information technology and culinary arts. In 2014, the US DOL/ETA Region I Office and NEBHE began to discuss adapting the PBL model for YouthBuild programs. NEBHE's PBL methodology engages students in "real-world" problem-solving and instills critical thinking and teamwork skills needed by today's employers. Findings show that PBL successfully engages students who tend to underperform in traditional lecture and test-based environments.

In January 2015, NEBHE initiated the first of two professional development workshops for three YouthBuild grantees: YouthBuild Newark, the Providence Plan and the Hartford Community Renewal Team. The goal of the initial professional development workshop was to show the YouthBuild instructors how to implement PBL using the PBL Projects' multimedia Challenge modules and its proprietary Whiteboard problem-solving tool. The workshop scheduled significant time for each grantee to work in breakout sessions with an assigned mentor from the PBL Projects' instructors. A participant acknowledged the value of this strategy, saying, "The time with our mentor gave me more insight to the project and the overall objectives of this type of work. Today was awesome!"

The mentors are currently following up the initial workshop with technical assistance and support as the YouthBuild instructors integrate PBL into their instruction. Grantees are currently in the planning stages of designing and implementing their own PBL learning modules with a focus on each community's unique needs. The implementation phase will continue with a two-and-a-half day workshop in June 2015 to further help the project participants develop their own Challenges. ■



YouthBuild "Introduction to PBL" participants from Providence Plan brainstorm PBL problems to use with their program's students.

Alliance Partnership in Problem-Based Learning

Last fall, two AM PBL project participants forged a successful “Alliance” partnership in PBL implementation. The Alliance model is designed to foster a pipeline from high school to higher education, giving high school students role models and promoting mentorship among college students. In this Alliance partnership, students from Williamstown High School in rural Vermont collaborated with college students from Norwich University to work together on the FastCAP Challenge.

Karen Supan, an Assistant Professor of Mechanical Engineering at Norwich, previously collaborated with Sharron Prairie from Williamstown during a 2013 STEM Institute for educators on incorporating engineering in STEM and English Language Arts (ELA) classes. During their collaboration in the AM PBL project, Prairie, who teaches high school physics and chemistry, planned to introduce her students to challenging content and self-directed learning, while Supan hoped her university students would take on a mentorship role with the high school students.

“Working with Sharron Prairie as my Alliance Partner gave me a renewed energy for teaching.”

Both educators found the collaboration successful, citing student engagement and deeper learning. Students gained insight into the value of problem-based learning while working in groups of diverse ages and experience levels. According to Supan, “When we met as a mixed group, [the college students] focused more on the task at hand and were less distracted.” One of Supan’s students remarked, “My favorite thing about the Challenge was working with the high school kids. It opens their eyes up.” According to Prairie, witnessing how college students managed “unexpected results” helped her students accept their own “feelings of disequilibrium in the educational process.” She added that the Challenge allowed her students to “recognize the complexity of real problems and helped them develop a higher tolerance for the idea that there are many correct solutions for problems.”

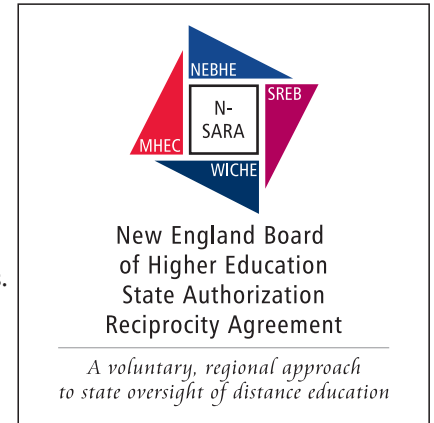
According to Prairie, she and Supan did not focus exclusively on teaching the content of the Challenge, but rather on the “opportunity for learners of different ages and academic backgrounds to interact on a more level learning field, and to appreciate that learners of all levels can work on the same complex problems if they just have the same resources available to them.”

Co-facilitation also had a substantial impact on the educators. Supan remarked, “Working with Sharron Prairie as my Alliance partner gave me a renewed energy for teaching. She helped me see that I could have fun teaching while also keeping the expectations for the students at a high level.” Prairie, in turn, felt increased confidence in teaching new content and sharing her insights with other educators. ■

State Authorization Reciprocity Agreement: New England Update

The State Authorization Reciprocity Agreement (SARA) continues to gain momentum in the New England region as stakeholders develop plans to implement it within their home states. SARA is a nationwide initiative of states that will make distance education courses more accessible to students

across state lines and make it easier for states to regulate—and institutions to participate in—interstate distance education. New Hampshire was approved as the first state in the region to join the New England SARA and is now accepting institutional applications. “SARA is bringing quality assurance and consumer protection in step with the fast-moving world of online learning,” said NEBHE President and CEO Michael K. Thomas. “New Hampshire will be a critical part of an expanding network of proactive states that are working to benefit students and to strengthen institutions’ online program provision.”



The National Council for State Authorization Reciprocity Agreements (NC-SARA) is a voluntary, regional approach to state oversight of postsecondary distance education. The initiative is administered by the country’s four regional higher education compacts (MHEC, NEBHE, SREB and WICHE) and overseen by NC-SARA. States and institutions that choose to participate agree to operate under common standards and procedures, providing a more uniform and less costly regulatory environment for institutions, more focused oversight responsibilities for states and better resolution of student complaints.

Once a state joins SARA, accredited degree-granting institutions in the state that offer distance education courses can seek approval from their state to participate in SARA. When approved, these institutions will be able to operate in other participating SARA states without seeking independent authorization from those states. Participating in SARA is entirely voluntary for institutions, as it is for states.

Stakeholders in Connecticut, Maine and Rhode Island have submitted language necessary for changes to state statutes. Also, in early February, the New York State Board of Regents approved necessary actions for the state to participate in SARA. Nineteen states are currently participating in SARA and it’s predicted that by the end of 2015, there will be at least 35 states.

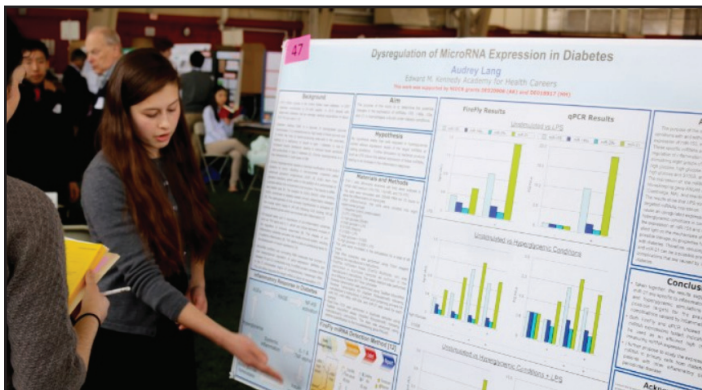
For more information, visit the NC-SARA website at www.nc-sara.org. You may also contact SARA Director Sandra Doran at sdoran@nebhe.org or Program & Outreach coordinator Kiley Danchise-Curtis at kdanchise-curtis@nebhe.org. ■

Disseminating the PBL Projects

March 7, 2015

*69th Boston Public Schools Citywide Science Fair
Northeastern University, Boston, Mass.*

Project Assistant Sara Putnam participated as a judge in the 69th annual Boston Public Schools (BPS) Citywide Science Fair held at the Cabot Center at Northeastern University. Approximately 350 students in grades 6-12 from public schools throughout Boston participated in the Science Fair. Of the students who participated in the BPS Science Fair, 30 winners in both the middle and senior high school divisions were invited to compete in the Massachusetts State Science Fair. Many of the Science Fair Projects creatively tied students' interests in music or sports into lab experiments. Judges were asked to not only formally critique the projects, but also to act as role models and encourage students to pursue careers in STEM.



A BPS student elaborates on her research findings at the 69th Annual BPS Citywide Science Fair, hosted by Northeastern University.

November 4, 2014

*PBL in Advanced Manufacturing: Transforming 21st Century Technician Education
Three Rivers Community College, Norwich, Conn.*

PI Fenna Hanes and Co-PI Judy Donnelly co-hosted a professional development workshop for middle and high school teachers at Three Rivers Community College (TRCC) in Norwich, Conn. with two collaborators: Michael Gentry, an AM PBL participant and manufacturing faculty member at TRCC, and Kelli Vallieres, the AM PBL Advisory Committee Chair and an Eastern Advanced Manufacturing Alliance (EAMA) Board Member. During the workshop, 24 STEM teachers from eastern Connecticut completed the FloDesign Challenge to develop a novel method for extracting energy from wind turbines. Industry representatives from EAMA spoke about the skills and training Connecticut's manufacturing employers look for in their prospective hires. Each teacher received either a wind turbine or an electrical generator kit that could be used to augment the Challenge in STEM classes. Teachers will receive ongoing support throughout the winter in implementing problem-based learning in the classroom. The workshop was supported by NEBHE, EAMA and the Eastern Workforce Investment Board.

October 22-24, 2014

*Developing Industry Driven Curricula Through Problem-Based Learning
NSF-ATE Principal Investigators Conference, Washington, D.C.*

NEBHE hosted both a breakfast roundtable and workshop session on the topic "Developing Industry-Driven Curricula Through Problem-Based Learning" at the NSF-ATE Principal Investigators Conference in Washington D.C. PI Hanes and Co-PI Nick Massa presented the PBL Projects to roundtable attendees, who engaged in discussions focused on resources, strategies, barriers and solutions to implementing PBL.

During the workshop session, Maine's Kennebec Valley Community College (KVCC) Energy Services and Technology (EST) plumbing instructor Bradley Harding described his training from the PBL Projects team in developing problem-based learning Challenges (more information on page 3). Harding and Massa discussed how they worked with industry partners to address local workforce development needs by identifying specific real-world problems appropriate for their classrooms. NEBHE congratulates Harding for receiving the 2014 Plumbing Instructor of the Year Award. This award is given to instructors who dedicate their careers to enriching the lives of students. The award was inspired by his having developed a real-world PBL Challenge in collaboration with local industry partners.

October 10, 2014

*Introduction to PBL
Sharon Center School, Sharon, Conn.*

Co-PI Donnelly and AM PBL participant Matt Budge presented an Introduction to PBL workshop to 19 middle school teachers from Sharon Center School district in Sharon, Conn. Participants were able to experience the process that they would be using in the classroom and gain a clear understanding of PBL and group collaboration through a hands-on approach. A follow-up workshop is being planned. The workshop was funded by the 21st Century Fund in Falls Village, Conn. ■



Members of EAMA posed for a group photograph. From left to right: Ralph Watson (Collins and Jewell), Chris Jewell (Collins and Jewell), Howard Jenkins (Electric Boat), Virginia Sampeitro (Eastern Workforce Investment Board), Kelli Vallieres (Sound Manufacturing and chair, AM PBL Advisory Committee), Mary Fitzgerald (Acme Wire), Kyle Carbone (Westminister Tool) and Peter Obuchowski (Xuare).

Register for SME's Bright Minds Program at EASTEC 2015!



NEBHE's AM PBL PI team will host an Introduction to Problem-Based Learning professional development workshop for middle, secondary and postsecondary instructors and administrators on May 13, 2015, from 9:00 am – 12:00 pm at the Society of Manufacturing Engineering's (SME) EASTEC conference, which runs from May 12-14, 2015 in West Springfield, Mass. EASTEC includes more than 500 exhibitors, conference sessions and an industry keynote speaker from The Boeing Company.

The PBL workshop is part of SME's Bright Minds program, a forum for engagement and collaboration among educators, industry representatives, administrators, guidance counselors and students to support the future of the advanced manufacturing workforce. The Bright Minds day begins with a keynote presentation and concurrent sessions follow, including student and educator workshops.

Participants in NEBHE's AM PBL professional development workshop, "Implementing a Problem-Based Learning Curriculum in Advanced Manufacturing," will learn how to incorporate the AM PBL multimedia case study Challenges, developed in collaboration with New England manufacturers, in their classrooms. The AM PBL instructional materials builds students' critical thinking, problem-solving and teamwork skills while preparing them to solve real-world industry problems. Participants will also gain access to NEBHE's network of PBL practitioners and online database of curricula.

During the student session of the Bright Minds program, high school and college students will showcase their SME "Dream It! Do It!" Manufacturing Student Challenge presentations. Teams of four to six students will showcase the work they did with an industry partner and local manufacturer to solve one of three possible SME Student Challenges:

- "LEAN and Green: The 21st Century Advanced Manufacturing Workplace"
- "Understanding by Design: Engineering and Technology in Manufacturing"
- "Made in the Northeast"

Students can also attend a workshop on manufacturing career choices, educational options, scholarships and internships.

Registration for the Bright Minds program and PBL workshop is free for educators, students and SME members. Please register by visiting www.easteconline.com and selecting the Bright Minds registration portal. ■

AM PBL Schedules Capstone Showcase Workshop for July 2015

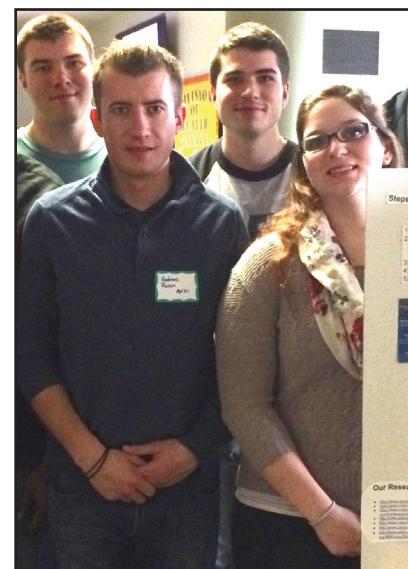
The instructors in the AM PBL cohort have done outstanding work implementing the Challenges in their middle, secondary and postsecondary classrooms. To date, the FastCAP Challenge has been field-tested in two different high schools and one university, and the IBM Challenge has been field-tested in three different high schools, one community college and in Romania by a high school teacher who has field-tested PBL Challenges from all of the PBL Projects.

The Hypertherm Challenge has been field-tested at three high schools, one community college and one four-year college. The Cirtec and Sound Manufacturing Challenges have recently gone online and will begin being field-tested during the spring semester. In addition, FloDesign, an engineering-based STEM PBL Challenge, was field-tested at a middle school and a four-year college. For more about field-testing, see page 1.

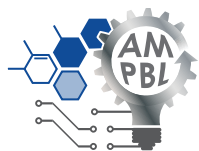
An important component of the AM PBL project is to provide opportunities for the project participants to learn from their PBL implementation and share their experiences with each other and administrators from their institutions. To meet this goal, a capstone showcase workshop is scheduled for July 13-14, 2015 at the Sheraton Hotel in Framingham, Mass. for participants who field-tested Challenges and their administrators, as well as the AM PBL Challenge industry partners.

The workshop will begin with a poster session showcase and dinner with a keynote speaker on Monday evening. Tuesday is a full day that will include a second poster session followed by guest industry speakers who will share the need for programs like AM PBL that prepare students with 21st century skills. Panelists will answer questions from AM PBL participants about the need for studying real-world problems in the classroom. Significant time will be spent in breakout sessions, by education level, for sharing and learning about participants' PBL implementation experiences with a report of best practices and next steps to be held at the end of the day.

To learn more about the Showcase, please email Becky Eidelman, PBL Projects Coordinator, at reidelman@nebhe.org. ■



Students at MassBay Community College share their findings from the AM PBL IBM Challenge at the MassBay STEM Expo in December 2014. A different group of students from MassBay Community College implemented the IBM Challenge again in spring 2015.



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NAWI to Host Annual Conference

The National Association for Workforce Improvement (NAWI) is celebrating 50 years of workforce education during its annual conference this May 20-21 in Saratoga Springs, N.Y. Additionally, on May 19, attendees are invited to partake in Makerspace and Industry Tours. The conference will focus on approaches to help teachers, workforce developers, counselors, administrators and business partners meet the challenges of the future. Conference attendees will include staff from secondary schools, community colleges and technical institutes; government leaders in workforce development; and representatives from business, industry and labor. Selected attendees will present innovative ideas for student, industry and teacher/counselor improvement including: preparing students for the workforce, best practices, contributing to economic development, addressing standards and new methods of assessment such as the Common Core. More information on registration is available at the NAWI website: www.nawionline.org. ■



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