UNITED STATES MANUFACTURING COUNCIL

May 16, 2016

The Honorable Penny Pritzker
Secretary of Commerce
U.S. Department of Commerce
Washington, D.C. 20230

Dear Madam Secretary:

A strong manufacturing sector is fundamental to our nation's economic prosperity. One of the key challenges for maintaining a viable U.S. manufacturing base is our contracting talent pool. Projected economic expansion and baby boomers heading for retirement will leave nearly 3.5 million manufacturing jobs to be filled, according to a recent study, *The Skills Gap in U.S. Manufacturing 2015 and Beyond*, by The Manufacturing Institute and Deloitte. Moreover, the skills gap — a consequence of the absence of broad-based technical education in middle and high schools — is expected to result in 2 million of those jobs left unfilled in the next decade. Manufacturers, along with officials at federal, state and local levels of government, have put a significant amount of effort into addressing this challenge.

The Workforce Development Subcommittee of the 2015-2016 U.S. Manufacturing Council (hereinafter "Council") has studied the past work and recommendations provided by previous Councils, as well as other advisory bodies for this critical topic. We strongly believe that existing national workforce development programs, especially those focusing on middle and high school students, must be further refined and strengthened to help revitalize our nation's manufacturing talent pipeline.

Based on our own experiences as manufacturers and relevant research review, we are respectfully submitting the following three recommendations aimed at middle and high school educational enhancement programs that introduce students to manufacturing, and help them acquire manufacturing skills to launch a successful and rewarding career in manufacturing after graduation.

Recommendation 1:
Expand joint internship and apprenticeship programs with Department of Labor

We respectfully ask the Secretary to deepen the dialogue with the Department of Labor to expand joint internship and apprenticeship programs by the Manufacturing Extension Partnership (MEP) with the Department of Labor workforce investment boards for high school students before and after graduation.

In addition, the Department of Commerce could execute the following recommended actions:

- Where possible, allocate funding to help jumpstart joint internship and apprenticeship programs through the National Institute of Standards and Technology (NIST) or MEP.

- Encourage the MEP or Manufacturing Institute to expand the scope of programs such as Pathways to Manufacturing in Oregon, Manufacturing Connect in Illinois, Apprenticeship Carolina in South Carolina, Dream It Do It in Ohio, and Catalyst Connection's Adventures in Technology in Pennsylvania.

Recommendation 2:
Push for reauthorization of the Carl D. Perkins Career & Technical Education Act of 2006

Reauthorizing the Carl D. Perkins Career & Technical Education Act of 2006 (which expired in 2012), will ensure the continued growth of Career Technical Education (CTE) in American middle and high schools. We respectfully ask the Secretary to engage with the White House, the Education Secretary and the Labor Secretary to strongly push for its reauthorization.

- This act supports CTE programs offered at the secondary or postsecondary level that combine academic instruction and occupational skills training to prepare students for transition to higher education or the workplace.

- Additionally, it supports programs in the fields of manufacturing and construction. State and local CTE programs now cover a range of occupations across a number of career clusters, including programs in health care, information technology and other fields with high concentrations of middle-skill jobs.

- These CTE programs provide the opportunity to earn stackable industry-recognized credentials along well-defined career pathways, allowing participants to enter the labor market quickly while maintaining the option for further education and training to enhance career prospects and earnings.

Recommendation 3:
Work with the Department of Education and the Department of Labor to enhance middle and high school curricula to include manufacturing experiential learning models and to establish industry-recognized work readiness certifications:

- ***Enhance Middle School Curricula***

  We recommend the Commerce Department work with the U.S. Department of Education to identify programs such as "Make 'IT' Great" by Scholastic© to include in middle school curricula. We offer this program as an example, since Scholastic© reaches more than 115 million families, 54 million children, and 4 million teachers in the United States with 99 percent penetration in our schools. In addition to providing an array of teaching, assessment and design resources for teachers, "Make 'IT' Great" introduces middle school students to advanced manufacturing technologies and exciting potential careers with virtual field trips and tours led by manufacturing industry experts and a series of simulation gaming apps that help students explore manufacturing and create their own virtual objects or factories. (More information about "Make 'IT' Great" can be found in Appendix A of this recommendation letter.)

Manufacturers also can serve as a key player in updating and developing next generation simulations that incorporate new advanced manufacturing technologies. We recommend the Secretary to direct Commerce Department resources to create a "plant tour library" via the Manufacturing Day website for manufacturers across the nation to upload their virtual tour videos and ensure videos are updated as new companies and manufacturing technologies are introduced.

- **Enhance High School Curriculum via CTE and Apprenticeship Programs**

  We request the Secretary and the Commerce Department collaborate with the Departments of Education and Labor to explore, identify and share successful apprenticeship programs with high schools that can be incorporated into CTE programs.

  CTE combines classroom knowledge with hands-on experience in technical fields. Apprenticeship programs provide paid internships and/or traineeships in manufacturing. Both programs can provide high school students with technical and employability skills and relevant experience required to enter the ever-expanding manufacturing sector, and allow them to acquire college credits. (More information on CTE and apprenticeships and examples of best practices can be found in Appendix B of this recommendation letter.)

  Several programs across our country employing these approaches have delivered tangible results with minimal resources. They help establish a strong connection between schools, local communities and local manufacturers, while creating multiple pathways for success. These best practices exemplify how manufacturing industries working in partnership with public schools play a vital role in developing a program that fits the needs of students and industry. These approaches also set the stage for revitalizing the modern manufacturing sector in communities as a foundation for broader community development.

- **Adopt National Career Readiness Certification**

  We ask the Department of Education and the Department of Labor to find common ground to promote the use of National Career Readiness Certificate for stacked and transferable accreditations among schools, community colleges, universities and industry.

  Stacked accreditations consist of individual certifications that students can earn through coursework in either high school or through a community college (see Appendix C for more detailed information on stacked and transferable accreditations). We believe that the use of stacked accreditations will allow students to exit high school with documented and certified skills that make them more competitive in the manufacturing job market. Therefore, we recommend that the Department of Commerce, joined by the Department of Education and the Department of Labor, encourage manufacturers across the nation to list voluntarily these certificates as part of worker hiring requirements.

In summary, the benefits of workforce development programs for students are twofold. First, students would acquire tangible, credible skills geared toward equipping them to become competitive manufacturing workers. Secondly, manufacturers would be in a position to hire skilled and committed workers who possess the training and knowledge required to propel forward the intellectually and technically driven manufacturing sector.

The Council strongly believes that the recommended actions will help marshal resources to revitalize our nation's manufacturing talent pipeline. We will also do our part to rally the manufacturing industry and its leaders in support of our stated objectives.

As Council members, we truly appreciate the opportunity to serve in partnership with you for the vitality of our nation and the future of all Americans.

Respectfully submitted,

Susan Smyth
Chair, Manufacturing Council

Claudine Martinez
Vice Chair, Manufacturing Council

Shirish Pareek
Co-Chair, Workforce Development Sub-Committee

Andra M. Rush
Co-Chair, Workforce Development Sub-Committee

Make IT Great:

The New "IT"

AN INSCHOOL PARTNERSHIP WITH SCHOLASTIC TO ENGAGE AND INFORM TEENS ABOUT CAREERS IN THE INDUSTRIAL TECHNOLOGY ("IT") FIELD

SCHOLASTIC

The Most Trusted Name in Learning™

SCHOLASTIC

SCHOLASTIC is a 93 year old, $2 billion global organization that reaches over 115 million families, 54 million children, and 4 million teachers in the United States with 99% penetration in US schools, and serves customers in 45 languages in more than 150 countries.

CLASSROOM MAGAZINES

Leading publisher of educational classroom magazines with 32 titles for grades K-12, reaching more than 25 million students and teachers across the country plus premier professional magazines: Scholastic Administrator and Scholastic Instructor

CONSUMER MAGAZINE

Scholastic Parent & Child is the second largest parenting magazine in the category, reaching over 7.3 million readers every issue. Scholastic Parent & Child ranks #1 in ENGAGEMENT among all parenting magazines; and #2 in PURCHASES among all 195 measured consumer magazines (MRI, STARCH, Jan-Dec 2012)

BOOK PUBLISHING

The largest publisher and distributor of children's books. Scholastic distributes over 350 million books per year in the USA alone. Approximately 1 out of every 2 children's books sold is a Scholastic book

READING CLUBS

Through 13 school-based, grade-specific clubs, Scholastic Reading Clubs reach more than one million teachers and millions of children and parents with high-quality, affordable children's books and reading materials

BOOK FAIRS

Scholastic hosts more than 125,000 book-sale events each year, reaching over 2 million teachers and more than 35 million children and their families in Pre-K through 9th grade

SCHOLASTIC.COM

World-class web site with robust content visited by over 100 million parents, teachers, and kids every year, with 730+ million page views annually, 13+ million page views per week, and 6+ million unique visitors each month

EDUCATION

Leading publisher of research-based core and supplementary instructional materials; providing reading improvement products from Pre-K through high school

SCHOLASTIC MEDIA

Producers of award-winning kids television, feature films, videos, web sites, interactive apps, games, and other products. A leader in marketing, promotion, and consumer products worldwide

SCHOLASTIC INTERNATIONAL

With offices in 13 countries, Scholastic is the largest publisher and distributor of children's books in the world, serving millions of children, families, and schools

A Partnership Between Scholastic and U.S. Manufacturers
:: Goals and Strategies ::

Identifying the Issue:

The U.S. manufacturing sector needs to re-introduce itself to the American people. There is a significant gap between Americans' perception of the sector and reality. This gap is affecting how Americans view manufacturing as a career option for the next generation.[1]

Program Goals:

- Establish the next generation in the manufacturing workplace
- Reposition manufacturing as "industrial technology"—a sector with meaningful, viable, financially rewarding career choices
- Shift the story of manufacturing to include 4-year universities, community colleges, and cross curricular studies

Program Strategies:

Engage more students with the industrial technology as a desirable career option through:

- Teacher Activation: Series of virtual field trips with accompanying classroom teaching guide and interaction with individuals who work in the Industrial Technology field, custom student magazines, custom microsite on Scholastic.com with targeted promotion, and additional student-facing content
- Guidance Counselor/Principal Activation: Informational brochure
- Principal, Superintendent, and School Administrator Activation: Sponsored advertorial

Scholastic's Nationwide Reach: Middle and High School Teachers

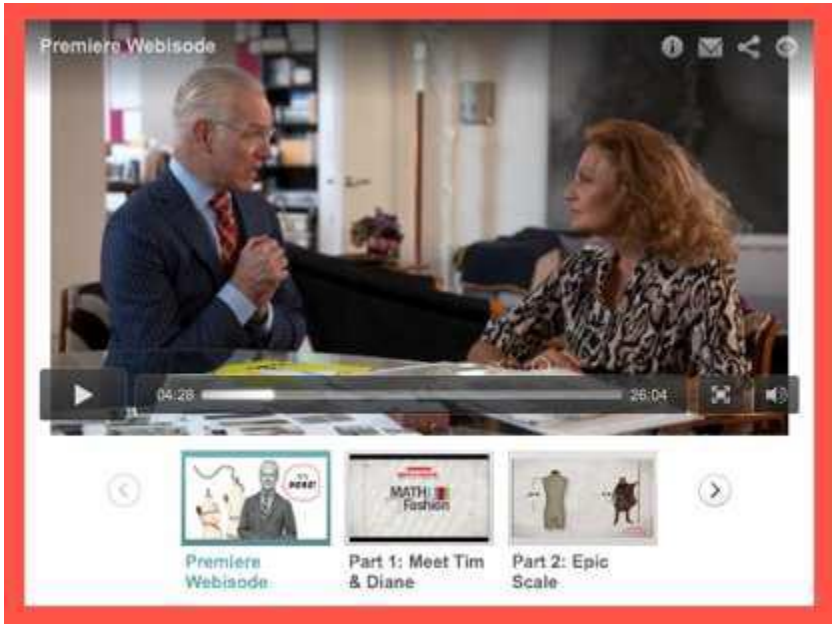
Titles	By Mail (Approx.)	By Email
Guidance Counselors	69,500	51,000
Science Teachers	175,000	129,500
Math Teachers	198,500	145,000
Technology Teachers	27,500	19,000
Engineering	2,500	1,800
Metalworking; Manufacturing Teachers	2,500	1,800
Principals	73,000	51,000
Superintendent; Assistant Superintendents	20,000	10,000
TOTAL REACH	568,500	409,100
TOTAL K-12 BUILDINGS NATIONWIDE	114,000	

Teacher Activation: Cutting Edge Virtual Field Trips

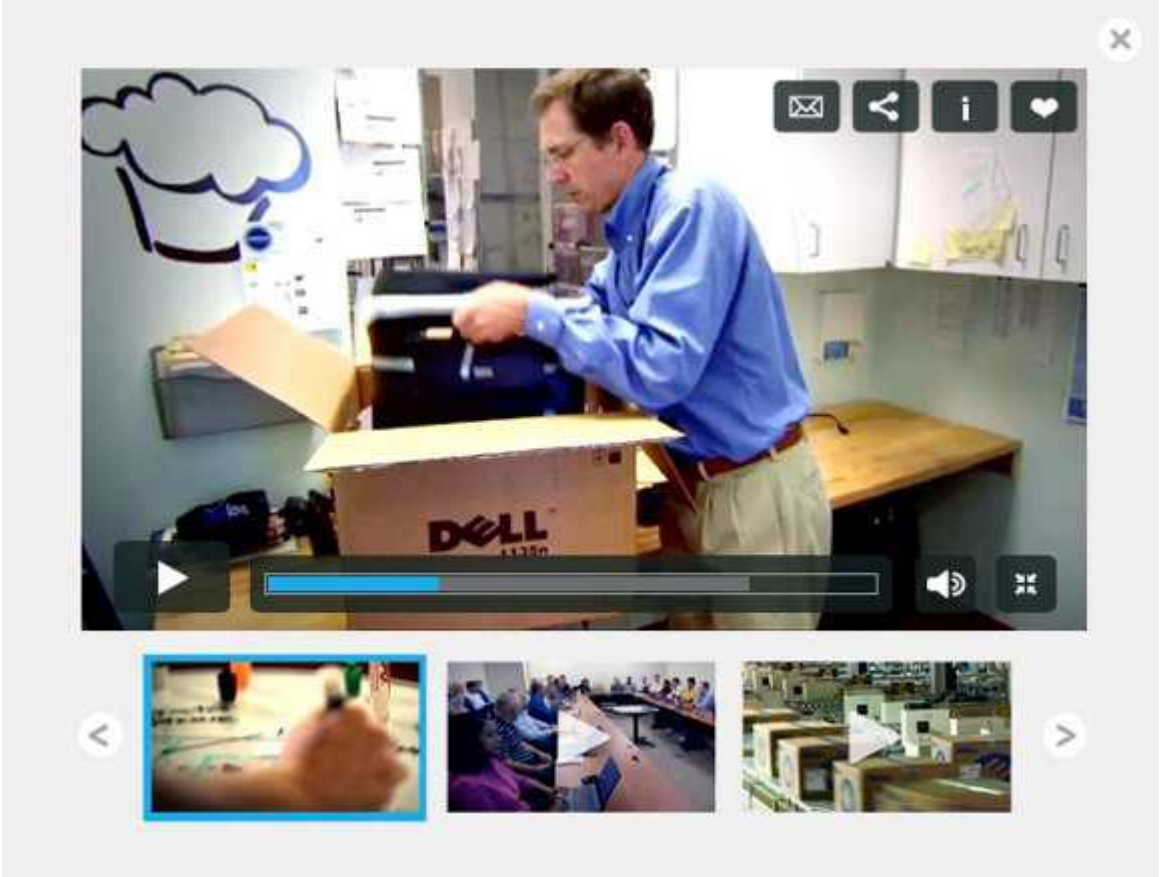
Taking students from their classrooms into the fascinating and innovative field of Industrial Technology

Broadcast directly into classrooms nationwide from the school-friendly Scholastic.com website, these 30-minute educational virtual field trips will reveal new horizons and career possibilities to students—introducing them to the new "IT" through a virtual tour experience. Released every few months with heavy promotion to teachers, this series of trips will start shifting the next generation's perception of manufacturing.

- Each video will give students an inside look at a variety of companies and positions within the U.S. Manufacturing industry—including interviews with industry leaders and even jobs they might not think of as "IT" jobs.
- This comprehensive series can host as many segments or highlights as the Partners' desire, and each segment can feature a specific U.S. Manufacturer.
- These cutting-edge STEM videos would integrate a variety of disciplines—demonstrating the breadth of opportunity within this field.
- Discussion guides for teachers will accompany the virtual field trips (information to follow).



Scholastic Math180 partnered with Tim Gunn and Diane von Furstenberg to show kids how math plays a vital role within the fashion industry. To view the video integrating a variety of disciplines, click here.



Mockup of sample webcast with Dell

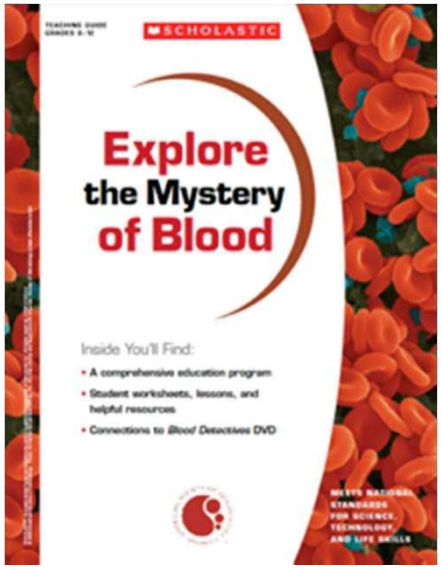
Teacher Activation: Classroom Teaching Guide

A complete set of teaching resources to accompany virtual field trips

To activate virtual fields trips in the classroom and integrate them into the curriculum, Scholastic will create and distribute accompanying teaching and discussion guides with student worksheets—a component similar to what Scholastic used for the 2010 partnership with the U.S. Census Bureau.

Teaching guides will be in a magazine format, designed for teachers to introduce the virtual field trips, including:

- Lesson plans helping students anticipate and process learning before and after they watch the virtual field trip
- Reproducible worksheets for teachers to copy and for students to complete in class—either while or after they take the virtual field trip
- Lessons showcasing manufacturing careers, as well as supporting the Common Core State Standards across multiple disciplines such as finance, marketing, technology, media, and more.
- Lessons can also include resume building skills, cover letter writing, negotiations for specialty jobs, etc . . .

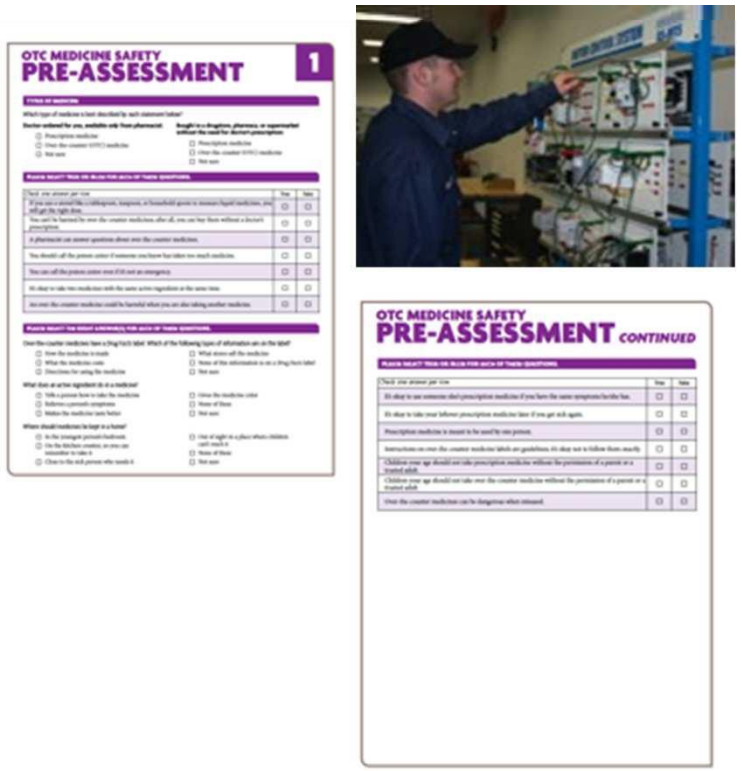


Example of a teaching guide. To view the sample online, please visit: http://www.scholastic.com/bloodscience

Teacher Activation: Student Knowledge/ Interactive Assessment Quiz

Engaging students in their future job possibilities and gauging program's impact

- To demonstrate program efficacy, Scholastic will create a custom interactive assessment quiz for students online, living on the program microsite (details to follow).
- Students will answer questions before they watch any virtual field trips or program content, and then retake the same quiz after to compare their score to find how much they learned through the webcasts and program content.
- Quiz questions will address what they know about available jobs within the new IT space.
- At the end of the activity, students can also answer some questions about their interests to find out a possible future career for themselves within the Industrial Technology field, and be given a short profile of a notable person in that career, as well as links to find out more about it.



Sample assessment quiz

IMAGE VIA NTCC.EDU

Student Activation: Custom Classroom Magazine Edition

Scholastic will create a custom student magazine for junior high and high school students, direct-mailed to teachers (each teacher receives a class set of 30) mailed along with the classroom teaching guide.

- The magazine's content will align with the virtual field trips, providing a more detailed look at IT careers, an college roadmap, etc . . .
- In custom career profiles, students will find engaging interviews, surprising facts, and other eye-opening info will change students' perceptions about the place of the new IT—and their possible role in it! Unexpected careers like the Head of Marketing, will be featured—impressing students with the important message that all skill sets are needed within the IT field.
- Magazines will be mailed in classroom sets of 30, one for each student.

Do you know?
Scholastic is the country's leading classroom magazine publisher, with over 12+ million student editions in circulation.

Student Activation: Custom Simulation-Style Gaming App

Scholastic understands that the goal of this partnership will be to help students explore the next generation of manufacturing jobs and how their education can lead to a relevant job within the IT industry. The provided game concepts below should be understood as broad-stroke conceptualizations and not as actual deliverables. We will work with you and your team to fully scope out the app and ensure it meets the students' needs.

Game Concept A: Manufacture a Career, Explore to unlock your possibilities

A linear format game (similar to Super Mario Brothers) that allows users to explore their manufacturing career options. As they acquire in-app career skills, they 'level-up' into more specific or exciting roles in the selected industry.

Use Case: Users are introduced to a global game map and prompted to choose a manufacturing path. After selection, they're taken into a stylized manufacturing plant to explore, acquire skills and ultimately unlock each industry completely. As users explore, we'll create trigger events to help them learn more about the experience and career possibilities.

Features: Visually dynamic game levels with interactive elements and "build your own adventure" style game play to help users unlock career options and learn about the various manufacturing tracks.

Platform/Devices: With considerations this game could be constructed using HTML5 and distributed on multiple devices and platforms (browsers and mobile phones).

Game Concept B: Manufacture an Industry, Build to discover your possibilities

A Sim City-style game that educates users on the basics of how things are manufactured and then challenges them to build efficient, customized factories that produce defined items in that industry.

Use Case: User selects tech manufacturing. After a brief introduction to the industry (video/slides) they are introduced to the drag and drop environment. As users drag items to the canvas and start connecting the various factory parts (i.e. processor production line to assembly line) they're introduced to the more subtle details on the role as well as what it takes to get a job in that field. Each industry has a number of open-ended challenges (produce mobile phones, produce computers etc.) to keep them exploring the "modules" and learning more about specific manufacturing industries.

Features: The factory modules will be dynamically defined and oriented to the canvas to keep game play robust and interesting. As users evolve through the industries and manufactured items, game play will become more challenging (using dynamic object parameters).

Platform/Devices: This concept will require a native mobile strategy OR web strategy.

Principal & Guidance Counselor Activation: Informational Brochure

Informational Brochures

- Scholastic will create informational brochures for principals and guidance counselors to introduce students to the breadth of career options in the new "IT"—and how their skills could be used in this field
- Brochure will include a letter to principals/guidance counselors about the role of industrial technology, and the necessity of filling career gaps with workers in a variety of skills—and introduce the programs' strategy and the role of the principal or guidance counselor in activating it
- Pages of the Brochure can also be photocopied / reproduced and sent home to spark a dialogue with parents about Industrial Technology careers as "something to consider" for their child

Custom principal brochure

School Leader/Administrator Activation: Sponsored Advertorial in Administr@tor magazine

- This unique opportunity to reach administrators through Scholastic's Administr@tor magazine will speak directly to school leaders through a custom advertorial
- The advertorial will introduce the in-school program and the importance of showcasing the new IT to all students as a possible career option
- It can also highlight school leaders or districts who do this well

Custom advertorial example

Administr@tor Audience
- Superintendents / Assistant Superintendents
- CTWs , Tech Directors, IT Directors
- Curriculum Directors
- Media Specialists / AV Directors
- Principals
- Business Managers / Purchasing Agents
- Title 1 / Federal Program Directors

Engaged: 78% of Administr@tor readers spend 40 minutes on average or more reading or looking through a typical issue*.
Involved in Purchasing: 85% strongly influence or approve purchases
Professionally Active: 85% attend professional conferences; 60% have advanced degrees
Experienced: Have taught for an average of 8+ years

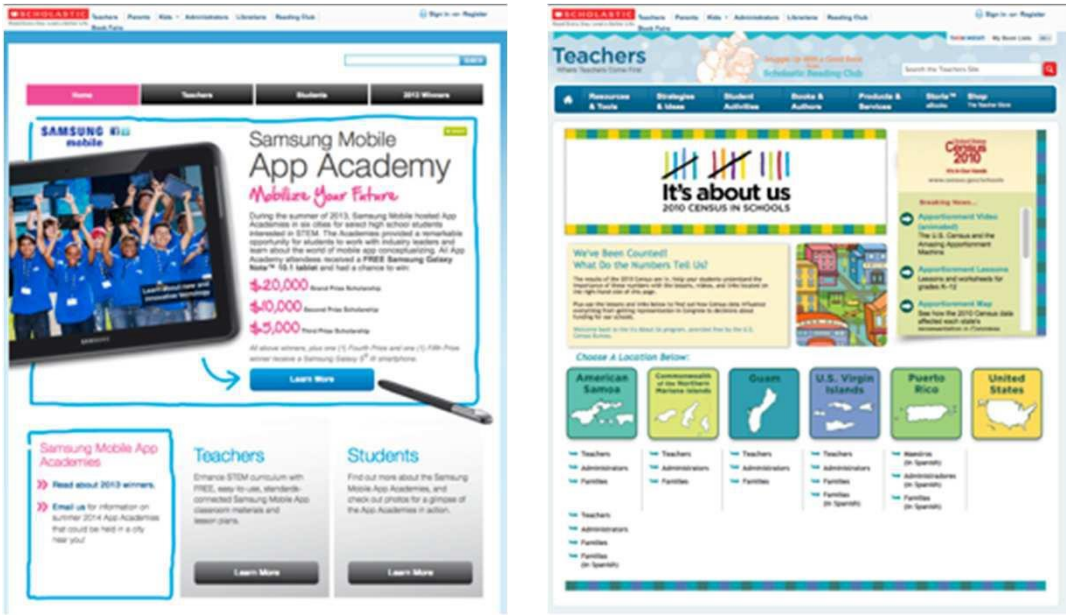
Custom Microsite on Scholastic.com

Provides a portal for further career searching and host classroom materials

To ensure the program is available for all teachers nationwide, Scholastic will create a one-stop, online destination for this program. Site content for teachers can include:

- All print pieces as downloadables for teachers nationwide to access and activate into their classrooms
- Further educational materials to support the print pieces and virtual field trips
- Links and information on the new "IT" industry
- Links to a student pre- and post-program assessment quiz

Separate tabs for guidance counselors and school leaders/administrators will include information addressing them and giving them relevant information about the new IT and how to introduce it to their schools.



Example Microsites

Do you know?
Scholastic.com receives over 2.6 million unique visitors on our educator's channel monthly, and is the #1 site for teachers.*

 *QED/MDR

Program Research Capabilities

- Scholastic's research capabilities will allow extensive program research to determine students' perceptions of industrial technology/manufacturing careers both before and after they participate in the in-school program.
- To capture behavioral change and impact among students who have participated in the program or used the app, Scholastic's Research team will demonstrate the efficacy of the classroom materials through the following research methods:

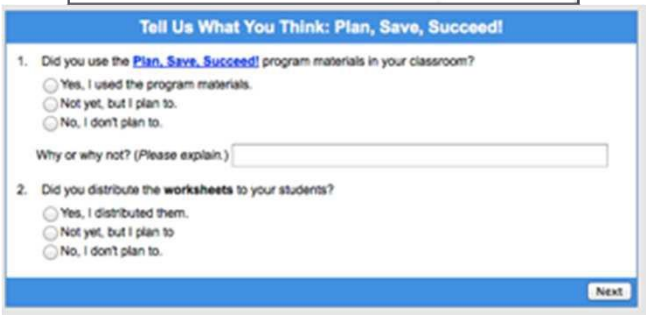
- Qualitative studies such as focus groups
- Quantitative surveys measuring the impact of the program on student's behavior using research software such as Qualtrics
- Pre- and post- program surveys, captured either online or in print and including open-ended questions, cross-tabbing, and questions about demo/psychographics

Note: Specifications of research, focus groups, recruitment, and incentives to be determined.


SCHOLASTIC

YOUR OPINION MATTERS!

Be One of the FIRST 25 People to Mail In a Completed Survey and Receive 5 FREE Books from Scholastic!


Tell Us What You Think: Plan, Save, Succeed!

1. Did you use the Plan, Save, Succeed! program materials in your classroom?
   - Yes, I used the program materials.
   - Not yet, but I plan to.
   - No, I don't plan to.

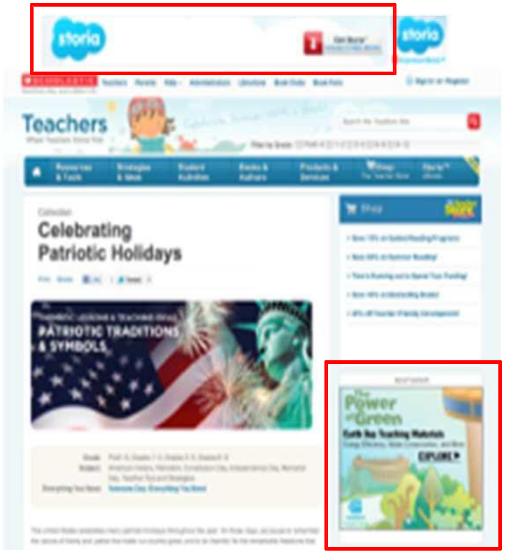
   Why or why not? (Please explain.)

2. Did you distribute the **worksheets** to your students?
   - Yes, I distributed them.
   - Not yet, but I plan to
   - No, I don't plan to.

Next

Integrated Promotion Through Scholastic's Channels

Placement	Targeting	Placement and Reach
Emails	Teachers, school leaders, guidance counselors	Deployed from Scholastic's database, will drive to microsite. 100% share of voice.
Digital ads	Teachers, school leaders, guidance counselors	Custom ads on Scholastic.com will drive to microsite
Content integration	Teachers, school leaders, guidance counselors	Editorial mentions in e-newsletters, digital placements, etc ... throughout Scholastic's channels
Print ads	Teachers and administrators	Instructor magazine (525K readership) and Administr@tor magazine (195K readership)



Budget and Reach*

Introducing the New "IT" Virtual Field Trip Series

- Three (3) 30-minute virtual field trips—including travel, scripting, management and execution from start to finish

Print Activation*

- 50,000 qty. custom 16-page + cover classroom teaching guide
- 50,000 sets of custom student magazines in classroom sets of 30, poly-wrapped separately, but mailed together in sturdy envelope with accompanying Teaching Guide
- 50,000 qty. 6-pg gatefold self-mailing brochures sent to school guidance counselors/principals via direct-mail
    - Dimensions are 23 ¾ x 10 ½" flat and folds to 8 x 10 ½ final size

Digital Activation and Promotion

- Custom microsite on Scholastic.com aggregating all print content as downloadables and hosting of virtual field trips
- Custom online assessment quiz
- 2,000,000 ROS banner ads on Scholastic.com's Educator channel
- 1,000,000 impressions of editorial integration throughout Scholastic.com
- 750,000 emails from Scholastic to teachers, guidance counselors, and school leaders
- 2 full-page print ads in Instructor magazine promoting the virtual trips and digital resources
- 2 page advertorial in Administr@tor magazine introducing the program and its importance
- 2 edit mentions in Instructor and Administr@tor e-newsletters

Total Investment: $1,347,477 NET
Estimated Total Impressions: 10,695,000

*Print Quantities can be modified based on desired reach/ budget

Additional Option: Custom Simulation App Development: $300,000 NET

- Includes design, creation, web-based platform and app submission to specific platform store either Android or iOS

*Pricing valid for 60 days from 1/31/14.

Looking Ahead

Scholastic is excited to launch a larger and even deeper program into schools off the first year of partnership. The following years will bridge the connection from high school classrooms to industrial technology businesses with even more opportunities for students to experience the breadth of careers in industrial technology. The program will build out to address more career possibilities and provide even more students with a look into these.

Strategic Ideas for Years 2 and 3 of Partnership

- Live G+ Hangouts with Individuals who work in the IT sector
  - To further engage students, Scholastic can host multiple G+ Hangouts between classrooms and a guest speaker who works in the field of Industrial Technology—including a video, a Q&A session, and more.
- Additional Virtual Class Trips
  - Further avenues and facets of the new "IT" explored
- Classroom Connections / Career Day
  - Opportunity to link local classrooms with U.S. Manufacturing companies for live field trips or follow an employee day s, kids can see first hand what it's like to work in the specific field

Costs for each extension opportunity provided separately upon request.

Your Program with Scholastic :: Measurements of Success

- To facilitate ease of management, Scholastic will assign a dedicated project manager who will be the direct contact for U.S. Manufacturing Partners on this program and manage all aspects of the program's deployment and ongoing administration
- Program analytics vary by delivery mechanism:
  - Postage-paid teacher survey included with Classroom Teaching Guide mailing helps gauge interest and use of the materials and measures awareness and perceptions
  - Opportunity to include online educator surveys on the custom portal to gain additional feedback
  - Digital metrics delivered monthly and include:
    - Custom portal traffic (unique visits, page views, number of downloads, time spent, number of contest entries)
    - Email data (open rates, click through rates, link analysis and heat map)
    - Banner tracking (impressions delivered, click through rates)
    - Social media: Facebook and Twitter
  - National print measurements:
    - STARCH Advertising Effectiveness Research: accompanies every print page and measures brand interest, awareness, and engagement
    - Print-to-Mobile Scans: number of activations

Appendix

Sample Webcast Statistics

Scholastic webcasts are hosted on Scholastic.com, the #1 classroom website in the U.S. for educators and students.

Scholastic's 2012 webcasts averaged 2,470,580 estimated views.

Webcast	Date	Unique Streamed Views	Est'd Streamed Views	Total Replays	Questions Submitted	Total Estimated Views
JK Rowling	10/11/12	37,916	1,200,000	46,417	N/A	2,592,510
Read Everyday with Taylor Swift	10/24/12	13,611	1,100,000	34,783	N/A	2,143,490
Thanksgiving/Mayflower	10/12/12	N/A	N/A	332,964	N/A	9,988,920
Graphix	3/7/12	689	35,610	2289	864	104,280
Ellis Island Immigration	3/29/12	8,713	447,030	52,358	3,576	2,017,770
Series Favorites	4/17/12	1,369	65,166	2690	N/A	145,866
WordGirl: 3rd Annual Definition Competition	5/1/12	1,745	74,430	7560	1099	301,230

Case Study: U.S. Census Bureau 2010

Scholastic created the *Census In Schools* ("CIS") outreach and education program in their third partnership with the U.S. Census to enhance census participation

Program Goals

- Improve response rate to census form
- Improve accuracy of the count
- Improve public response rate

Scholastic Strategy

- Target hard-to-count population segments, including schools with high percentages of Title One, ESL, and ELL students, and schools in island areas
- Reach every K-12 school (114,000), district, and principal
- Reach adult education programs
- Using teaching guides and family materials, spread census awareness through students to communities

Program Results

- **Every school in the U.S**. and millions of students and parents, were exposed to census efforts
- **74%** of respondents to K-8 survey distributed CIS materials [1]
- **65%** of schools responding to high school survey used materials in their classrooms
- **10%** more people were counted than in 2000 census, and overall response to form was 72%
- ***All CIS goals were met***

1. Phone survey of over 10,000 schools

Case Study: Samsung Mobile Apps Boot Camps

Scholastic partnered with Samsung to create free two-day STEM workshops for exceptional high school students to learn about app creation.

Program Goals

- Introduce students to the growing world of mobile apps
- Teach students the steps to making a mobile app from conception to development
- Address the role technology can play in improving communities
- Create future engineers
- Provide ideas about mobile app/technology career opportunities

Scholastic Strategy

- Create a free, two-day boot camp for high-achieving students interested in STEM with 30 students per class in four locations: San Francisco, Dallas, Atlanta, and Boston
- Team up with local universities to create an educational and inspiring atmosphere (UC Berkeley, UT Dallas, GA Tech, and MIT)
- Instruct through leading app developers and provide industry guest speakers
- Give students who attend boot camps a Samsung tablet and the chance to enter an app concept submission to win prizes
- Create digital hub for boot camps with contest information and app contest submission portal on Scholastic.com
- Recruit students through email and direct school calls

Program Results

- Boot camps were successfully delivered in all four (4) cities
- Over 63% of participants entered contest
- Prizes include a chance to win a $20,000, $10,000 or $5,000 scholarship, and Samsung phones
- Winners were announced at January 2013 at CES event

Year 2 (2013-2014):

- The program has launched and expanded to 6 markets including a teacher facing app development class workshop

Learn more about the program: Scholastic.com/SamsungBootCamp

Case Study: Dove's "Be Unstoppable" Campaign

Dove partnered with Scholastic to extend its self-esteem campaign into schools with a live webcast featuring Scholastic authors and Dove® Global Self-Esteem Ambassador Jess Weiner.

Program Goals

- To increase "lives reached" with the message of self-esteem, and drive downloads of the Dove Self-Esteem Toolkit
- For teachers and parents to engage with their students/children on this vital topic.
- To target children (ages 8-12) and moms

Scholastic Strategy

- Conduct preprogram survey to educators to best determine materials usage.
- Deliver 75,000 posters to teachers in our proprietary database including lessons on self-esteem and strong character.
- Execute an in-school live webcast and event at Scholastic's HQ featuring Scholastic authors discussing history's heroes and what made them unstoppable.
- Create custom microsite on Scholastic's Teachers' channel to house classroom materials for easy download by teachers.
- Promote across all Scholastic channels, including digital and *Instructor* magazine.

Program Results

- **Over 2.3 million lives reached** (A "life reached" is equivalent to one hour of lessons/activities at home or in school.)
- **149,000+ student views** of the webcast
- Delivered over **6.6 million digital impressions**
- **17,000+downloads** of program kit
- Program continues to reach more lives at www.scholastic.com/dove.

Thank You

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APPENDIX B: HIGH SCHOOL EDUCATIONAL REFORM

Project-based **Career and Technical Education (CTE)** aligns students' interests with industry, manufacturing, robotics and engineering, along with experienced industry professionals from local manufacturing firms. CTE combines academic classroom knowledge with hands-on, in-person experience in the field. Unlike many other programs, CTE provides real-world experience, which gives students a tangible glimpse into fields relevant to their interests. In fact, 81 percent of high school dropouts said that project-based learning programs like CTE would have encouraged them to stay in school and gain accreditation to work in a field that interested them, according to a report by the Association for Career and Technical Education. As part of preparation for a CTE program, schools also should provide means for federally funded "employability skills" training (e.g., punctuality, teamwork, organization, etc.) to ensure the relationship between schools and manufacturers remains strong and to ensure student success upon matriculation into a CTE program.

The **Apprenticeship Program**, available to all students, provides paid internships and apprenticeships in manufacturing in cooperation with their local high school. Apprenticeship programs — Pathways to Manufacturing in Portland, Oregon, is a prime example — would give students a chance to learn a skill set and earn money as they attend high school. Sponsors (trained by the industry) work with student employees (journey-level workers) to teach them the essentials of industry work and support classroom work related to the field. Should students choose to continue working in the industry, their classroom and on-site work goes toward their continuing education and training. High school apprenticeship programs would:

- Provide work-based education for young people who are at least 16 years old and pursuing a high school diploma or its equivalent
- Provide work-based education for students in real job environments, including specific objectives and desired competencies
- Provide income for students
- Help students identify the link between academics and work-based activities
- Involve employers directly with local school districts and foster a collaborative relationship between the educational community, government and industry, paving the way to match curricula to industry's needs
- Provide students an opportunity to gain experience in careers with potential for high wages, personal growth and seamless transition to the workforce after graduation

Working in partnership with public schools, manufacturing industries will need to play a vital role in developing a program that fits the needs of both students and the industry. Regional workforce boards in cooperation with organized local industry coalitions will become true partners of local schools. Industry's role will be to:

- Interview and select potential high school apprentices
- Pay progressive wages to registered high school apprentices
- Provide an appropriate and safe environment for registered high school apprentices
- Assess progress of registered high school apprentices and adapt work processes as necessary
- Provide work-site mentors and supervisors for registered high school apprentices
- Provide work-based learning experiences in all aspects of the industry

- Certify technical skill proficiency

Best Practice Examples

Pathways to Manufacturing in Portland, Oregon, which provides students with paid internships and on-site training, has resulted in a large number of youth successfully entering manufacturing careers and meeting the increasing need for a qualified workforce. In June 2013, the first class of 16 students participating in Pathways to Manufacturing finished their internships and qualified for job placement at local Portland industries.

Similar to Pathways to Manufacturing, **Manufacturing Connect** in Chicago partners with more than 60 local companies and universities to provide students with career mentoring, field trips to manufacturing companies, job shadowing experiences, paid internships, summer jobs, stackable credentials and employment after graduation. As of July 2012, Manufacturing Connect, which became fully operational in 2010, has seen 120 students complete 200 paid internships, 181 students earn 261 industry-recognized machining credentials, and 400 students visit manufacturing companies for field experiences.

NAM Dream It. Do It. offers Career Technical Education to students interested in manufacturing. This program creates partnerships with manufacturers, educators, students and parents to close the skills gap by offering classroom and real-world educational models such as workshops and job shadowing for students, which helps them understand what manufacturing really is and how they can succeed in the industry.

Lastly, the **Catalyst Connection's Adventures in Technology program** in southwest Pennsylvania also provides real-world opportunities for students to engage with local industry and learn about STEM and manufacturing careers. Local companies work in partnership with classroom teachers to host educational tours for students working on research-based projects in the classroom and pitching their solutions to the company. By engaging in a hands-on task to design and build a product or to re-engineer an existing product, this program complements existing science and technology curricula at local schools. The projects are aligned with STEM standards and curricula, project-based learning efforts, and career exploration programs. More than 2,400 middle and high school students from 60 schools have participated in this program since its inception.

APPENDIX C: STACKED AND TRANSFERABLE ACCREDITATION

Promoting stacked accreditation would allow students to exit high school with documented and certified skills that make them competitive in the manufacturing industry. Stacked accreditation consists of individual certifications that students can earn through coursework in either high school or through a community college. Examples include certificates of Career Readiness or Precision Machining, and degrees such as an associate or bachelor's degree in applied science and/or engineering.

Manufacturers require a base level of skills for entry-level jobs in the industry, but the opportunity to gain these skills is scant and provided mostly by manufacturers themselves. We recommend starting by promoting the **National Career Readiness Certificate (NCRC)** and moving on to Manufacturing Skills Standards Council (MSSC), The National Institute of Metalworking Skills (NIMS), American Welding Society (AWS) and Society of manufacturing Engineers (SME) in schools and industry. Students earn a Career Readiness Certificate by completing an assessment that covers basic work skills: workplace mathematics, reading comprehension, graphic comprehension, mathematics/physics problem-solving, and information application. By offering this assessment in local schools and community colleges, industry offers students more than just an education but also a means of income and a foot in the door of a growing industry.

Still, an obstacle to stacked accreditation certificates is the value they hold in the industry. We want to encourage manufacturers to require these certificates in order to both ensure that industry gains skilled, knowledgeable workers and that stackable accreditations give students real hiring value. Students interested in entering manufacturing will do so if they can be confident in the training they have received.