

Connecticut Health and Life Sciences Career Initiative (HL-SCI) Booster Development Process

To: Lesley Mara, Esq, Senior Project Director, CT HL-SCI

Prepared By: Sarah Hartzell, Project Manager, Microburst Learning

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Subject: Booster SME Review

CT Health and Life Sciences Career Initiative partnered with Microburst Learning (MBL) to evaluate newly developed boosters, assist in developing additional boosters and ensuring that boosters met ADA compliance standards and standards for online learning.

The purpose of the boosters is to introduce and/or reinforce math and science concepts to increase student mastery and course success. The boosters are a vehicle for addressing math or science where students may not have the skills needed for a course or program. A package of boosters could serve as review of those skills to ensure students are prepared for a course. By taking greater advantage of online and technology-enabled learning, students will be able to start and complete modules at times convenient to them and to repeat modules, as necessary, to ensure skill mastery, making it easier and faster to complete college-level coursework.

MBL used the following process to make these enhancements.

Initial Review

MBL developed a custom rubric that analyzed each booster on a number of standards, including ADA Compliance, ADDY Design Standards and compliance standards from the Skills Commons Accessibility Checkpoints Guide. MBL representatives also attended a Storyline conference on accessibility and a U.S. DOL workshop on accessibility and included those findings in the rubric. Additionally, MBL included a number of AIM/CAST Compliance standards on the rubric, including:

- Closed Captioning in videos (and/or transcripts as requested)
- Control of volume for the video and narration on the slide
- Video and audio with no music in the background
- Video controller where the user can play, pause and go to a direct location in the video
- Narration of text on screen
- Text accessible via JAWS screen reader
- Keyboard support for all areas on a slide, if an interaction is a drag and drop or hot spot type interaction, an alternative keyboard supported interaction is provided
- Flicker reduction (no flashing or blinking objects or other elements with a frequency greater than 2 Hz and lower than 55 Hz)
- Text equivalents are provided for all non-decorative non-text elements
- Object's or image's type, state, and description is passed to the accessibility interface

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- Color coding is not used as the only means of conveying information indicating an action, prompting a response or distinguishing a visual element
- Color contrast approved ratio for background and foreground colors is 4.5:1 or greater
- Contains Clear and Consistent Navigation
- Text is not contained inside of an image
- Attachments and lessons are in Word vs pdf and have contrast between headings, text, and backgrounds
- Hyperlinks are active and clearly identified
- Page numbers listed in online material match printed text
- Table Markup includes identifiers (rows and columns that is compatible with assistive technology or rendered in an application such as a browser that offers this functionality)
- Audio/video content is shown in a media player that supports closed captioning

MBL reviewers used this custom rubric to review each booster on the aforementioned standards. During this process, the reviewers also made spelling and grammar corrections, analyzed the structure and flow of the boosters, and verified that outside sources were Open Source or Public Domain. MBL reviewers made change suggestions where needed.

Modification

MBL's design team used these change suggestions to take the instructors' original material and convert it into a SCORM package that is AIM/CAST and ADA compliant and increased the level of interactivity from the original format. Some examples of interactive elements that were added are drag and drop activities, virtual process interactions, virtual scenarios, and step-by-step process interactions. The aim of the added interactions were to make the boosters more engaging to the students and to give the students a virtual "hands-on" experience that offered them a deeper level of learning.

Subject Matter Expert Review

MBL then sent the completed SCORM packages back to the original instructor or a Subject Matter Expert (SME) designated by the college for review. SMEs were instructed to review the enhanced boosters for content accuracy, functionality and design. Additionally, SMEs were instructed to review the narration for pronunciation of technical and scientific terms. MBL made any modifications requested by the instructors/SMEs and this review process was repeated until the packages were approved.

The following SMEs were provided by HL-SCI and were involved in this process:

- Norman Abell, Professor of Biology, Gateway Community College
- Espy Anguiano, PhD, Senior Manager, Genome Technology Operations at The Jackson Laboratory for Genomic Medicine
- Christina Alevras, Adjunct Instructor of Biology, Manchester Community College

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- Todd E. Arnold, Ph.D., Managing Director, Mount Sinai Genetic Testing Laboratory—Connecticut
- Jennifer Bresnick, PT, DPT, Director, Physical Therapist Assistant Program, Norwalk Community College
- Patrick Bryan, PhD, Professor of Biology, Middlesex Community College
- Mark Busa, Professor of Physics & Physical Sciences, Middlesex Community College
- Laura Butterfield, PhD, Science Teacher, Farmington Public School
- Cara Case, Program Director of Diagnostic Medical Sonography Program, Gateway Community College
- Cathleen Caufield, RN, MSN, MS, CHSE, Simulation Coordinator, Norwalk Community College
- Wei Cen, Librarian, Middlesex Community College
- James Clark, Adjunct Professor of Biology, Manchester Community College
- Todd Degree, Professor of Exercise Science, Gateway Community College
- Dominique Doris, MS, RDN, CD/N, Clinical Instructor, Gateway Community College
- Corinne Fisher, Adjunct Faculty, Gateway Community College
- Andre Freeman, Professor of Mathematics, Capital Community College
- Pamela Galasso, RDN, CD-N, Adjunct Professor, Gateway Community College
- Paul Gallo, Director, Exercise Science and Wellness, Norwalk Community College
- Jay Gibson, Adjunct Professor of Biology, Manchester Community College
- Nicole Hafner, MS, RCEP-EIMIII, C-EP, GEI, Instructor of Exercise Science & Wellness, Norwalk Community College
- Chris Hamelin, Associate Professor of Mathematics, Manchester Community College
- Joy I. Hansen, Librarian/Instruction Team Leader, Middlesex Community College
- Janet Hayes, Curriculum Innovator, Gateway Community College
- Anne Hermans, D.V.M., Program Coordinator & Assistant Professor of Veterinary Technology, Norwalk Community College
- Bujar Konjusha, Professor Science & Math, Capital Community College
- Michelle Krackowski
- Daniel Laffin, CPRW, Veterans' Employment Representative, CT Department of Labor - Office for Veterans' Workforce Development
- Dottie Lay, RN, MBA, DNP, Professor of Nursing, Norwalk Community College
- Susan Levine, MSN, RN, Gateway Community College
- Pauline Lizotte, Assistant Professor of Biology, Manchester Community College
- Dawn McDaniel, MBA, MPA, ACC, President, Bravo Delta Consulting, LLC
- Kate McDonald, Adjunct Professor of Biology, Manchester Community College
- Clifton E. McPherson, Ph.D., VP Regulatory CMC, Protein Sciences Corporation
- Kate Miller, HL-SCI Curriculum Innovation Coordinator, Adjunct Biology Faculty, Middlesex Community College
- Jon Morris, Professor of Biology, Middlesex Community College
- Walter Nakonechny, Associate Program Director, Genomic Education, Director, Genomic Workforce Consortium, Jackson Laboratory

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- Carol Oliveri, Educational Assistant, Mathematics, Science & Health Careers, Manchester Community College
- Louise Petroka, Professor of Biology, Gateway Community College
- Laura Racine, Professor of Chemistry, Norwalk Community College
- Jonathan D. Ramos, Veterans Services Associate, Manchester Community College
- Alexander Reiss, Adjunct Professor of Biology, Manchester Community College
- Paul Robson, PhD, Director, Single Cell Genomics and Senior Research Scientist, Jackson Laboratory
- Cristina Roche, Adjunct Professor of Science, Middlesex Community College
- Cleo Rolle, PhD, Instructor of Science & Mathematics, Capital Community College
- Larry Salay, Director of Information Technology, Gateway Community College
- Raynaldo Scarlett, Adjunct Professor of Chemistry, Capital Community College
- Cindy Seiwert, Adjunct Professor of Biology, Manchester Community College
- Madhavi Shah, Instructor in Microbiology, Middlesex Community College
- Kristy A. Simms, Ph.D., M.P.H., CPH, Norwalk Community College
- Frank Stellabotte, Adjunct Professor of Biology, Middlesex Community College
- Marcie Stock, HL-SCI Curriculum Innovation Coordinator, Biology Professor, Manchester Community College
- Maria Stockmal, Adjunct Professor, Middlesex Community College
- R. E. Tremblay, Department Chair of Math/Science, Gateway Community College
- Sheri Valentine, Professor of Business Office Technology, Gateway Community College
- Bettina Vossbrinck, Professor of Biology, Gateway Community College
- Narinder Whitehead, BSC, MPH, Adjunct Faculty, Gateway Community College
- Paul F. Whitehead, Professor, Capital Community College
- Harvey Wiener, Lecturer of Biology, Manchester Community College
- Christine Witkowski, Associate Professor/Program Coordinator, Environmental Science, Middlesex Community College
- Jessica Zolciak, Professor of Biology, Manchester Community College

If the college did not have an appropriate SME to review the completed packages, MBL sent the packages to an appropriate member of their Technical Advisory Committee and the above review process was followed. MBL's Technical Advisory Committee included the following members:

- Karen Follin, RN, MSN, ACNP-BC, CCNS, CEN, SANE
- Dr. Lori Geddings, Doctor of Veterinary Medicine (DVM)
- Dr. Robin Matutina, Nursing PhD and Instructor for Medical University of South Carolina
- Dr. Jordan Johnson, Ed.D., SPHR
- Dr. James Payne, PhD; Physics Instructor
- Lauren Pepin, PA-C
- Tracy Taylor, MS in Physical Inorganic Chemistry

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- Ginny Thaxton, Nurse Practitioner
- Dr. Edward Tracy, Electrical Engineer and MD; Chief Resident for Medical University of South Carolina and Dr. for VA

Additional Information

For additional information regarding Microburst Learning's review process and custom rubric, please call 803-719-5073.



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