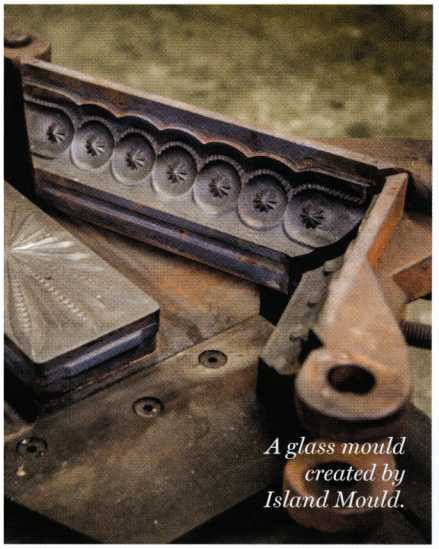
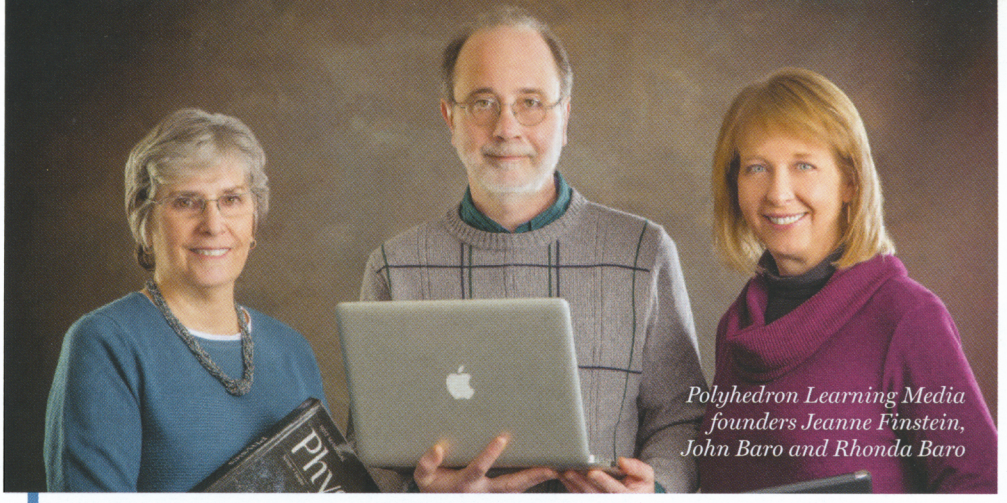
Nationally, about 53% of the workforce is employed by small businesses. While their workforce may be small in number, their output and influence can be gigantic. Wheeling small businesses work hard to innovate, be responsible with resources and protect their heritage of quality products.



A glass mould created by Island Mould.



Polyhedron Learning Media founders Jeanne Finstein, John Baro and Rhonda Baro

POLYHEDRON LEARNING MEDIA

Polyhedron Learning Media was created in 2004 when Jeanne Finstein, John Baro and Rhonda Baro left the NASA Classroom of the Future on Wheeling Jesuit's campus to create their own business. John has a strong background in computer programming, Rhonda specializes in design, and Jeanne's background is in math education and management.

They started with small projects. The Planets, and Stars, and Me... Oh My! exhibit at the Children's Museum of the Ohio Valley and space programming in conjunction with the SMART Centre were early successes. PLM's largest project is the Virtual Physics Lab for high school and college level physics classes. These 24 lab experiments for high school and 28 labs for college are based on the standard learning objectives in the respective courses. This covers all of the topics in one full year of a physics class.

The high school level apps were acquired by Houghton-Mifflin-Harcourt for use with their high school physics books. Brooks Cole Cengage, a college textbook publisher, markets the upper level labs nationwide. These apps make it possible for schools with limited resources to perform experiments without purchasing expensive equipment. Specialized physics tools are built into the app and allow the students to see how they perform in real-life situations. It also provides students with additional time to try the experiments outside of classroom instruction time. The experiments can be repeated as many times as necessary for complete understanding of the concepts. For many teachers, time is a factor in deciding what can be accomplished in class. With these programs, no set-up time is required and some things can be condensed; for example, water can boil faster on an iPad than in a classroom.

The experiments give a realistic rendering of how equipment performs. There are errors and unanticipated results built into the program to encourage critical thinking. The high school labs have detailed instructions as well as help in building graphs, charts and conclusions. Manuals explain the physics principles being tested, and quiz answers are sent directly to teachers for grading. There are also videos of the experiment being performed by students with hands-on equipment for a realistic look at the procedure. The college level labs have less structure and more opportunity to change variables and interpret results.

The small business consults with educational professionals to determine content and has launched the programs in local high schools for evaluative purposes. This research shows that students learn just as well using the simulation labs as they do in a physical high school laboratory. Students learn how to use equipment, measuring tools and the scientific method inside the convenience of an Apple app.

The business also has games for younger children to learn physics concepts as well as iNSIGHT apps appropriate for any age. These will supplement an experimental psychology curriculum by giving students a chance to perform tests in sensation, perception and vision science.

The growth of technology in education gives students access to advanced equipment their schools may not have. Polyhedron Learning Media understand how students learn and continues to give them the opportunities to advance their knowledge. Exposure to these experiments and theories creates a thorough science education.