

GAZEL-ATIC-AzTEA Labster Consortium Project
July 15, 2019 Teleconference Report

Attendees: Sam Butcher (Labster), Kasha Kiros (Labster), Steve Peters (GAZEL & ATIC), Oris Friesen (GAZEL & ATIC), Henry Goldberg (ATIC), Bill Lombardi (GAZEL), John Walsh (Cochise College)

GAZEL Arizona Innovate Learning Collaborative Initiatives Overview

Steve Peters explained the GAZEL organization has been restructured as a 501(c)(3) to enable obtaining grant funding, and the organization has been re-named as “Greater Arizona Educational Leadership.” Steve overviewed GAZEL’s Arizona Innovative Learning Collaborative’s priorities for 2019-2020 beyond establishing a Labster and Arizona Virtual Laboratories Consortium.

The Innovative Learning Collaborative will be working in the following areas:

- Generation Yes computer science and IT training programs in schools (a unique aspect of GenYes is that they train students to help teachers with IT education and support).
- Professional Development of teachers and higher-education faculty: professional development is a major barrier to the adoption of educational technology, and there needs to be a coherent strategy to advance this.
- Organizing an Innovative Learning Conference to develop a coherent vision and strategy on improving education for all types of students and achieving the funding for this.
- Creating an Open Education Resources Network so a large variety of e-learning courses can be made available for free to schools.
- Creating an Innovation Labs/Makerspaces Network aiming at better integrating these with science courses in educational institutions, including coordination at the state and local levels.
- Operating an Arizona Broadband Stakeholder Network (AZBSN) in partnership with the Arizona Telecommunications & Information Council (ATIC) to bring relevant stakeholders together to collaborate on enabling cost-effective and reliable broadband wireline and wireless infrastructure deployment across Arizona for various applications including education, healthcare, economic development, and public safety. Rural communities often lack adequate broadband infrastructure, and rural schools require broadband for implementation of Labster virtual simulations. Steve is meeting with Jeff Sobotka, the new Arizona Broadband Director, to discuss how the AZBSN can support his directions for broadband deployment and use in the state.
- Exploring Federal Reserve Community Reinvestment Act funding opportunities. The Federal Reserve now requires banks to invest funds into creating digital equity and overcoming the digital divide, and there are potentially millions to billions of dollars that could be invested by banks nationally. The Innovative Learning Collaborative would like to develop a leading-edge strategy to have communities/schools work with the banks in Arizona to address the digital divide (e.g. broadband access, educational technology for schools and workforce training) for rural or low-income communities in an effective manner.

Labster Update

Sam Butcher explained Labster has recently received over \$20 million in Series B funding, which enable them to build more new virtual lab simulations in such priority areas as physiology, chemistry, microbiology, and ecology. They are defining simulations for use in high schools, and are now ready to work seriously with schools in adoption of Labster. They are also looking at workforce training for lab technicians and other areas. There are now 200 universities/colleges across the US that are using Labster lab modules.

Kasha Kiros overviewed Labster activities in Arizona. Labster has had a strong relationship with ASU, and Labster simulations are in use on the main ASU campus as well as another campus. Prof. Michael Angiletta did a survey of his students on the use of Labster Virtual Reality (VR) simulations in his ecology course, and there was a 97% positive response. Labster is introducing John Walsh, who has enabled the use of Labster VR simulations at Cochise College, to Michael Angiletta and Phillipos Savvides (ASU Technology Manager for EdPlus and ASU Online). Labster is also working with: Coconino Community College on a chemistry course, NAU (looking at using Labster for chemistry courses), Central Arizona College (which could start using Labster in the coming academic year), and Pima Community College (Michael Amick interested in using Labster for their distance education programs). Kasha stated that if a course using Labster is established statewide that would streamline adoption across the state.

Steve asked if Labster has the capability to develop new modules that may be demanded in Arizona. Sam Butcher responded Labster has done market research in the past six months to determine in which areas Labster could have the biggest impact. Their roadmap is not 100% fixed yet. They do have funding to develop other types of modules, but would need to agree which are the highest priority. Steve added Labster may also be useful for university courses in engineering and math, where students drop out because they have difficulty understanding the material – faculty using Labster with appropriate professional development training could help address this.

Proposal: Establishing a Labster and Arizona Virtual Laboratories Consortium

Steve Peters recently sent Labster the GAZEL-ATIC-AzTEA project proposal document: “Establishing a Labster and Arizona Virtual Laboratories Consortium” that was written by Steve, Henry Goldberg, and Oris Friesen. Steve asked for Labster’s opinion on this proposal document.

Sam Butcher stated he sees value in bringing together all the Arizona educational institutions currently using Labster to discuss experiences, best practices, and next steps for wider adoption and purchasing as proposed in the document. Labster is also interested in Labster adoption in K-12 schools and for workforce training as proposed. Sam expressed concern about spreading ourselves too thin and the Consortium activity should have clear focus on what is achievable. Sam believes the Arizona Consortium makes sense and is comfortable with the direction of the proposal. With regards to providing seed funding to execute the project proposal, Sam stated he would approach

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Labster executives about it but thought it is not likely because their budget has been allocated. Labster may be able to assist in helping obtain funding for this project.

Steve explained that GAZEL-ATIC-AzTEA interest is to establish a virtual laboratories consortium for educational institutions and workforce training, and the issues will be how to build the consortium and derive priorities. Henry Goldberg stated that it will be important for the project to identify priorities for use of Labster simulations in the short term so that appropriate modules can be delivered or developed, and also have a longer-term direction for the consortium.

John Walsh (Director of Library Services at Cochise College) stated he had done demos of Labster VR simulations for Pima, Coconino, and South Mountain community colleges. At Cochise College, the cost per student is about \$350 for use of Labster in a course for 400 students. John is president of an Arizona higher-education libraries consortium, which includes community colleges, three tribal districts, and now the three state public universities, that has a mission to collaborate on purchasing articles for electronic databases. The Arizona State Library is a funding member of this consortium and Holly Henley (the State Librarian) usually attends their meetings. The Maricopa County Community College District will manage this consortium, including paying bills and billing the member institutions.

Steve said this library purchasing consortium could be a model for how the Arizona virtual laboratories consortium might operate. There should be significant reduction in costs for purchasing Labster modules if a consortium of educational institutions and workforce training organizations is established to coordinate purchases on a large scale, possibly creating a statewide consortium license. Steve expects this consortium to be managed by an educational institution (e.g. ASU).

Bill Lombardi asked Sam Butcher to give a quick overview of how Labster currently engages with educational institutions. Sam stated the steps are: initial call with instructor(s) of the course, introducing the Labster platform, instructor reviews the content, discussion of how the Labster modules used will be paid for, Labster simulations are then incorporated into the campus learning management system, and Labster supports the instructor in using the simulations in the course. In some cases as with ASU, custom work is done to develop new modules.

Next Steps

Steve will work on developing a detailed operational plan of how to execute an event inviting relevant stakeholders in Arizona to discuss the establishment of a Labster and Arizona Virtual Laboratories Consortium. This will enable universities/community colleges currently using Labster simulations to discuss experiences, identify priority areas for use and development of new Labster simulations for all educational institutions, and discussion of how consortium purchasing/funding could work.

Steve will approach organizations that could potentially provide seed funding for this Arizona virtual laboratories consortium project, including foundations that may support

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new educational initiatives in Arizona (e.g. Helios Foundation, Science Foundation of Arizona, and the Gates Foundation). A grant proposal will need to be prepared for execution of activities associated with this project.

Steve will arrange a follow-up meeting of the Labster and GAZEL-ATIC-AzTEA team once sufficient progress is made on the above.

Henry Goldberg and Oris Friesen will write up the summary of this meeting for distribution and placement on the GAZEL Arizona Labster Consortium Website.