**Introduction (Laura).**

Good morning all. We hope you’re prepared for a thoughtful consideration of how the stories we tell today could apply to your institutions. When it comes to the term “NGDLE” coined by ELI’s own Malcolm Brown some two years ago, we think most often of software itself, the holy grail of the next gen learning environment. We think of technology which is interoperable, personalizable by faculty, allows for assessment and analytics – potentially of students, courses, and even programs. It’s a technology that stipulates universal design and promotes interaction, not just between student and content, but between instructor and instructor, student and student.

You’re in for a treat because, while the holy grail does not truly exist (yet), today’s speakers are already collaborating and already building to bring us all closer to this goal. Each one of us has some kind of footprint in the community known as the Apereo Foundation. Each one of us collaborates together within that community on a monthly, sometimes even weekly, basis.

To assist and facilitate our educational organizations which in turn collaborate to foster, develop, and sustain open technologies and innovation in support of learning, teaching and research, that’s Apereo’s mission. And what part of that isn’t in agreement with our own institutions?

It’s probably worth defining what we mean by ‘open’, by ‘sustainable and open technologies’ because not everyone defines those equally. By “open” we mean completely transferable, re-mixable, mashable, derivatible by anyone, anywhere, freely, without charge. We believe this kind of institutional collaboration and work product is necessary for the evolution of an LMS into the kind of next gen learning ecosystem that will serve us all.

If you haven’t already done so, to get rolling, pull out your device, bring up a browser, and enter socrative.com for this sessions’ audience poll questions.

As you’re listening to these stories, we invite you to consider where higher ed is on the path to the NGDLE?

**Story paragraphs (and how does my story relate to one or more of the pillars of NGDLE):**

Katrina:

I think we’re all familiar, and you can raise your hand if this is something you have experienced at any point in your career - we’re all familiar with the model of the LMS as the central point of the learning experience. It’s the walled garden that keeps the information, resources, tools, etc. And you, like me, probably also have the issue of finding really cool things you want to incorporate into your classes but there isn’t an API or integration or the
technology doesn’t “talk” to your LMS or you have to upvote the feature or whatever, so you end up with a lot of great ideas that sit in the “someday” pile. That problem is why I decided to go with an NGDLE solution, ELMS:LN. It’s kind of like the anti-LMS. As you can see in the image above, instead of everything living in one controlled space, the NDGLE solution favors integrations, flexibility and diversity of technologies. It rejects the LMS as the center of the universe and takes more of a “suite of tools approach” to the building of a learning experience. It’s about developing and fostering an ecosystem as opposed to a single solution. This allows us to put the user, whether that’s the faculty member, or the student, at the center of the experience, as it should be. When you’re creating an ecosystem, you’re meeting various needs with diverse toolsets. It allows instructors to tap into tons of resources to create personalized learning pathways and offers huge flexibility in how those pathways serve up learning. Through the use of ELMS:LN, I’ve been able to create a virtual one button studio application that allows students to respond via video recording to randomly generated prompts, provided a window into learning analytics for some instructors who wanted to know which videos were getting the most views in their course, and gather immediate, specific, in-time feedback on custom learning experiences from students and help instructors use that feedback to make immediate changes to later experiences in their course offering. We were able to implement these changes, tools, and strategies into our courses because of the flexibility and openness of our NGDLE solution.

Karen:

My story involves an Apergeo project called Opencast and the community engagement it fosters.

Opencast is free, open-source software that automates lecture capture, processing, and distribution. We also use Opencast to live-stream lectures for our distance students. Opencast is able to integrate with LMS systems, like Moodle, Sakai, and Canvas. Opencast’s processing workflow is modular and can be customized to do anything you wish to do with a digital recording. You can also configure Opencast to publish to a feed, to YouTube, to its publication server, or to your own distribution channel. The Opencast community consists of many institutions working together to improve the project’s infrastructure and extend its features.

The spoken lecture continues to be a valuable component in the educational tool set. But, not all students cope well with the demands of long periods of focused concentration at the designated time in the designated location. It not only challenges local students, but we also support working and distance students who cannot attend live lectures.

Lecture recording help students participate who are unable attend the lecture or who have difficulty with the pacing of the lecture. Transcriptions, synced to the recording, enable topic navigation through recorded material. Closed Captions unburden students who have difficulty hearing or understanding the language. The Polytechnic University of Valencia (Universitat Politècnica de València) is an Opencast adopter the recently integrated automatic multilingual transcriptions to support a wider group of students. There is a wealth of resources evolving around the digital recording to lower barriers towards the material.

In addition to bringing students closer to the material. Opencast helps students become closer to each other. Since there are a lot of open-source tools
that are free to adapt, we have modified several open-source video annotation tools into a social annotation tool. Students use this to share comments, questions, and create discussions in the context of the recording. Students augment the recording with their own stories and peers respond to each other’s annotations with new insights and comments. The tool has given students a venue to demonstrate deep engagement with the material and opportunity to grow relationships with each other.

Many years ago, our department had its own in house, home grown lecture live streaming, chat, and capture system which was difficult to maintain, develop, and scale all by ourselves. The adoption of Opencast let us share ownership and development responsibilities with other institutions. It’s freed up our development team to look towards new features.

Before Opencast, we had a long manual process for applying captions to a recording. It was expensive and time consuming, and we only did it when required. But, after adopting Opencast, it was easier for us to develop an inexpensive automated transcription integration with IBM Watson to create transcriptions for all recordings and give the benefit to all our students. We contributed the work back to Opencast so anyone can use it, extend it, improve it, and innovate past it to something better.

Community collaboration with Opencast adopters is nurtured through project discussion boards, community conferences, community funded projects, and shared peer code reviews. Every week, I join operations and development personnel from other institutions to talk about Opencast problems and features we are working on or would like to work on. We are a group of interested parties sharing work and visions and hope more will join.

Commercial capture agent tool vendors have been attracted to the Opencast project because the scope of the open-source community provides them a wider customer base. They integrate their tools to Opencast and we benefit from the greater competition among vendors. Having more vendors gives us more options.

Opencast has brought us closer towards the goal of the next generation digital learning environment (NGDLE). The nature of captured recordings makes processing, distribution, usage, and management easier to scale, track, and extend. It brings students closer to each other, closer to their lecturers, and the material. It gives students opportunities to share questions and thoughts on the lecture content with each other. It has freed up our development resources so that we can look towards the future instead of shoring up the present. It has expanded our access to vendors and provided a market for vendors and Opencast specialists.

Linda:

One persistent goal for a “dream-state” learning environment is to illuminate student behaviors in a way that can impact their success. There is still much to learn about learning - many sessions talking about what folks are learning at here at this very conference. Some would say we are at the beginning of a long journey of discovery around how to effectively gain insight from student data. One area being studied is how to spot students that might be at risk - is this something that can be detected based on student activity, outcomes and/or demographics? If so, this can help instructors and advisors focus on the students who need help the most, and design effective interventions based on student needs.

With emerging fields like learning analytics, it’s really important for researchers to be able to learn from each other - something developed at one school
can then be built upon by another. I’m going to highlight some work which has been done over the past several years within the community to advance learning analytics. In almost all cases, work that was started at one school was shared into the community and leveraged by other schools. One of the schools where a lot of the work was done initially was Marist College. About 4 years ago, researchers at Marist ran a field pilot with over 2200 students across four institutions, two community colleges and two Historically Black College and Universities (HBCUs), over two semesters. Through controlled randomized studies, the pilot found statistically significant evidence that an early alert and intervention system had a positive impact on student success factors such as final course grades. That initial implementation at Marist was then brought to North Carolina State where it was scaled up.

Another related project is the Open Source Student Success Plan application (SSP). SSP was developed by Sinclair Community College, and it is a case management tool for counselors or advisors. SSP has features to support academic planning and can be configured to receive early alerts. According to Sinclair statistics over a 6 year period, students using SSP were five times more likely to graduate.

Efforts like these are paving the way for more initiatives to move forward, each new project learning from the projects that went before it. Not tying your institutional analytics work to a single application or application module retains flexibility and control, and helps prepare for a future where analytics efforts will reach beyond retention and advising.

Michael Greene: https://profmikegreene.github.io/conference-proposals/accepted/eli-18

Seth Andersen

At Duke, we think that a designed learning experience is probably best designed and deployed for an entire program...like, for example, a graduate level program. Students expect there to be a certain level of homogeneity in these programs, even if the courses cover a wide variety of specific subjects. We put our feelers out to find a program that was already successfully engaging its students, but would also be willing to jump in head-first and aggressively consider better ways for their students to interact and engage with each other, and with the course material. In particular, we were interested in finding a program for which student success in achieving course and program learning objectives was strongly dependent on successful, meaningful collaboration with other students. One of the features of a NGDLE is that “support for collaboration” is one of the main goals associated with the development of the experience itself, and not a mere afterthought where existing collaborative tools are “tacked on” as needed. We found the Doctor of Nursing Practice Executive Leadership Specialty. The program offers students a chance to become leaders in interdisciplinary health care teams and to work to improve systems of care, patient outcomes, quality and safety. Highly regarded program at Duke: U.S. News and World Report rates it as the #1 program of its kind in the US. Despite our belief that program level change would be most successful, because it is so early in the game, we thought it might be too risky and frightening to try to rethink an entire program on our first try, so we agreed to first look at the modules in one
class as a pilot for what we might do with the whole program. We asked the faculty member in this course to consider this an opportunity to “take down the walls” that she had put up around what might be possible with assignments her course. What are the walls? Time constraints, fear of change, limited monetary resources. Because the course that we chose adhered to good course design principles, we were able to use the language of course design to communicate with the faculty member about places where she found there to be room for improvement. So the question became: “Now that we’ve torn down those walls, what course activities or modules do you think could be improved in order to help students better meet the learning objectives you’ve set out for that activity or module?” This was very important.

The answer to that question was that there was lots of room to improve on the way that her students interacted with each other in order to complete collaborative projects.

We chose one activity on which students were collaborating using a number of disparate tools, and began to investigate ways to recreate the assignment around the idea of collaboration...hopefully bringing various learning tools together to feel more like a singular learning experience from the student’s perspective.

At this point, unfortunately, other unrelated factors led to the DNP program putting their involvement on hold. So we’re currently back to seeking out other courses and programs to join us on the designed learning experience journey. But our takeaways from the short experience that we had with the DNP Are:

Finding a successful place to begin to build the framework for an NGDLE depends almost entirely on finding courses/programs that, and faculty who, are dedicated to good course design principles.

...and, based on what bubbled up to the surface in terms of activities that could potentially be improved, the notion that “support for collaboration” should be a key design goal for the NGDLE is absolutely confirmed.

So, as we move forward, we intend to seek out another program that already has a strong pedagogical foundation of good course design in place...and one that includes activities that involve meaningful student collaboration.

Call to Action: How open source contributes to the NGDLE ideation? (before it’s code ready). Discussion Q&A preparation would lead to how each of us came to be a part of open source.

Conference Theme: Achieving Student Success through New Models of Learning

Conference Track:

- **Emerging Learning Technology and Practices**

Conference Types:

- **Short Presentation Pairs**: Presentation pairings include two 15-minute presentations (by different presenters) followed by a 15-minute question/discussion period, for a total of 45 minutes. Presentation sessions will be paired by the ELI annual meeting program team, based on proposal content. Highly visible, presentation pairs highlight pioneering practices by giving institutions a spotlighted venue with condensed presentation time. Please note these are not poster sessions.
Panel Title: Collaborating to cultivate the NGDLE, Stories from Apereo

See link here: https://events.educause.edu/eli/annual-meeting/2018/agenda/presentation-pair-next-gen-digital-learning-environments

Panel Abstract:

Interacting with the varying perspectives of our panel, you will engage with a pragmatic journey from today’s LMS to the Next Generation Digital Learning Environment (NGDLE) that is enabled via open source platforms and tools. How do open source communities around the world leverage their efforts to seek the best ways to develop and support new digital learning platforms?

- Polling
  - Distribute https://socratlVE.com/ AND its room # to registered attendees (email in advance). Also put up on slide as well. (Ask for a show of hands as to who has a smartphone with them). Smartphone browsers will be able to vote.
  - Show Socrative Response screen as voting occurs)
- Spontaneous questions from an open mic to address panel during Q&A
- Live Notes: A facilitator will be typing into a google doc live on the screen while the audience is questioning, commenting, and the panelists are responding.

References:


