

Hi ETEC 565A-ers. This is Lee and welcome to my short video wrapping up the semester and my “Choose your own adventure” effort.

In an earlier assignment this semester images such as the one shown here caught my eye. This is an image from Yet Analytics showing how xAPI and a Learning Record Store (LRS) can be used to integrate a wide range of systems into a larger learning ecosystem. Outside of ETEC my passion is working with organizations, helping them to learn, collaborate and compete in a software-driven world. Organizations that fail to find ways to improve how they learn are going to get outclassed by those that can.

Getting more focused, I’m especially interested in informal learning, all of those day-to-day interactions where people and teams find ways to get work done, learn and share. This is a difficult set of experiences to track and thoughtfulness is needed when thinking about how to work with the data. So, for my effort I assumed that xAPI and the web services provided by a variety of tools is an adequate technology solution – and – that the real challenge lies in figuring out what data is needed, how to analyze the data and how it could help an organization improve its learning and in turns its innovation and competitiveness.

Building, enhancing and operationalizing software is complex and requires a team-based approach. To get a foundation in place for understanding learning in this setting, I started by pulling in ideas from Social Learning Analytics by Ferguson & Buckingham Shum. They introduced 5 perspectives including social network, discourse, content, disposition and context.

Augmenting this foundational layer, I dug deeper into the team construct looking at team competencies originally introduced by McIntyre and Dickinson. They describe a model that includes the following competencies: Team Orientation, Leadership, Communication, Monitoring, Feedback, Backup Behavior and Coordination. Taking things a step further, we can also evaluate and consider teams by looking at how they are organized, the roles within teams and specific ceremonies. Many software organizations take on Lean, Agile and DevOps approaches and also set up models whereby they organize teams of teams (cases where the project is big and complicated). The Spotify model (yes, from the Music company) is illustrated here on the slide. They’ve provided model that is used in many other organizations – supported a matrixed view on small, individual teams and also teams of teams.

With these perspectives and models in place, I then set out to consider the activities and experiences that arise through use of a set of digital tools such as GitHub, Slack and Jenkins. For instance, in the case of Slack, we should analyze messages between individuals and also messages that happen in a team channel. Further, the effort should include network analysis, discourse, content, disposition and context (that is, Social learning analytics). Natural language processing would be needed to get insights on the messages themselves. Machine learning and recommendation engines could help with content analysis in the case of any files that are shared. Further, messages could be related to activities that occur in other tools such as GitHub and Jenkins.

Transitioning to GitHub, there are many activities that happen such as code reviews (pull requests), code commits, refactoring, documentation, planning, issue management and so on. For these activities to have meaning we need to consider the team structure, team role, propagation of ideas beyond a local team to the broader organization, and also aligning to measures of success. In the case of software development, we can gain some of this insight via Jenkins – which helps to manage building the code, running static analysis and test execution. More broadly, we can also look for feedback from other stakeholders. A key aspect to thinking about success is that generally we are trying to run experiments that give results as quickly as possible. And, an experiment that fails is valuable – letting us know that we need to pivot (or stop). So, if we determine a failed experiment, messages and activities related to that “failure” and its earlier identification should be seen as a positive learning experience. If we find that failures are taking too long (or are not showing up), we’ll want to introduce some interventions.

So, what’s next? Experiments in building out this approach and testing it with real teams. Right now, most organization have only instrumented their formal learning. While that has value, I fear that since we spend most of our time in informal learning activities, we’re missing the opportunity to have a significant impact on performance and results. I’m excited about this investigation and am looking forward to digger deeper into the thoughtfulness around the data and building out a sandbox.

Thanks for listening! I’d love to hear your feedback – give me a shout if you’d like to discuss.