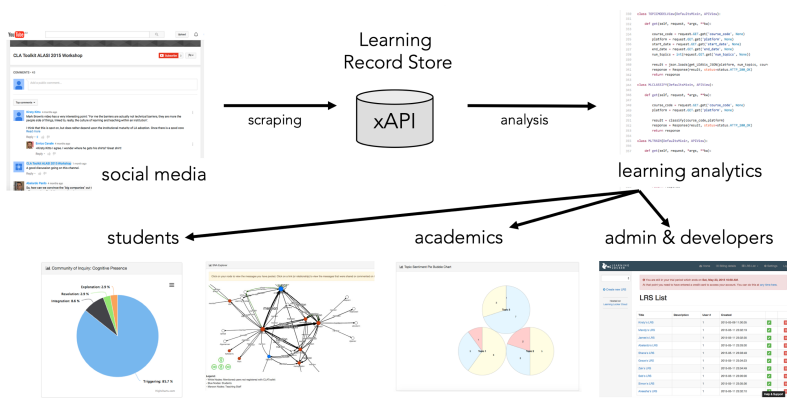


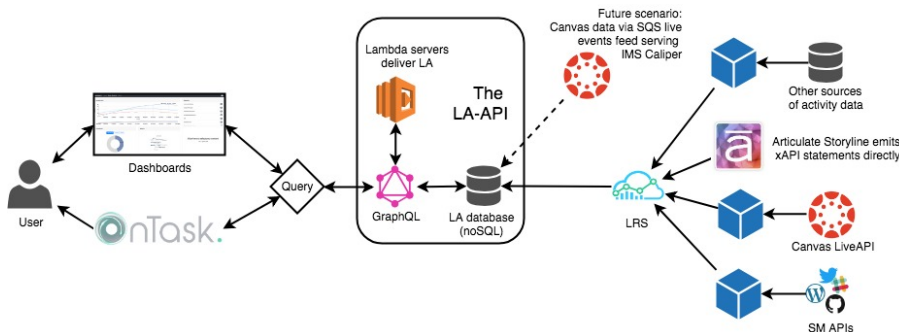
# Learning Analytics beyond the LMS (Final Report, 2018)

This project explored the dynamic between the need for teaching innovation alongside the need for the formal administration of education technologies. It sought to identify a solution that would enable educational innovators to teach across platforms and systems using authentic real-world technologies, while recognising the need for quality, privacy, ethics, and data control. Project outcomes demonstrate that it is possible to provide rich and authentic learning experiences for students 'in the wild', and still deliver learning analytics to staff and students using interoperable data that is ethically collected and securely stored.

## The Connected Learning Analytics Toolkit



## The Learning Analytics API



## Tools produced

Two sets of open source tools, the Connected Learning Analytics (CLA) toolkit and the Learning Analytics API (LA-API) will help the worldwide Learning Analytics community to achieve data interoperability. Both use the Experience API (xAPI) specification along with careful mappings of the semantics associated with various data sources and LA tools to facilitate the generation of student facing learning analytics solutions that help to encourage students towards greater metacognition and reflection about their learning.

## Key findings

1. To be effective, LA dashboards must be tightly coupled to the learning design and/or assessment regime of a subject. User interpretation of LA results are contingent on the pedagogical context.
2. Students can make use of LA dashboards and reports to develop an understanding of their approaches to learning beyond the LMS.
3. Student awareness and training to interrogate data is required. Students were likely to readily accept the LA reports without question.
4. Tightly coupled LA architectures are difficult to maintain and prone to quick obsolescence.
5. Designers of institutionally scalable LA infrastructure should seriously consider a highly modular architecture that will enable ongoing extensions of the datasets used, modifications of reports, and new integrations.
6. To be useful in a student facing context, learning analytics dashboards must be highly configurable, with different reports turned on or off depending upon: tools used; learning design; assessment regimes; and student data literacy.
7. The data traces created as students make use of any configurable dashboards are likely to be a rich source of information about metacognition, critical thinking and self-regulated learning. They should be a priority for future LA work seeking to develop 21st century skills.

## Impact

We consider the potential future impact of the LA-API to be significant for those institutions that rely upon data and analytics to improve student-learning outcomes. Widescale adoption would see the sector move towards a form of pragmatic data interoperability, which would help achieve data portability between institutions, and potentially, student ownership of this key 21<sup>st</sup> century resource.

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