## Research Knowledge and Skills

Develop skills in in literature searching, information retrieval and management through participation in workshops run by UTS or CSU.

Review literature on complexity in LA and in other related areas that might be useful (such as relational biology, causal inference, topology). Develop core question to answer, and a plan to attack the problem.

Develop theoretical knowledge in complexity applications (such as relational biology), causal inference, category theory and topology.

Develop knowledge of research methods utilised in the LA field.

--- 2021 timeline ---

Q1: Lit Review and research gap. Domain of application for...causal, Cat, Top.

Q2: Thesis map refined.

Q3: Refining Lit Review for stage 1

Q4: Plan for Cat / Top / Causal or other needed for remainder of PhD. Identify gaps and unnecessary components in theoretical knowledge requirements.

## Research Communication

Develop skills in scholarly writing though; online course in abstracts, utilising tools such as AcaWriter, workshops in argumentation, and of course – practice.

Submit paper(s) to journals around preliminary results and ideas in research topic.

Present on LA or thesis ideas at conferences or workshops.

Reactivate my blog and use it to develop my communication and ideas.

--- 2021 timeline ---

Q1: EDM and AIed papers due in Feb 2021. Aim for short paper. EDM interested in causal inference, maybe complexity model for AIed. One or the other, not both, and more likely the causal inference.

Q2: Blog post (possibly on Becoming / Being themes in mathematics / philosophy / biology / AI, or complexity model). Refine argument model.

Q3: LAK papers due Sep 2021. Aim for longer paper, possibly writing up case studies.

Q4: Target papers / presentations for next year.

## Research Governance and Research Management

Develop data management plan, relevant to research proposal. This will include finding suitable case studies (1 or 2) for testing the conceptual framework of exploring complexity in LA.

Draft HREC submission.

Do UTS research training module in research governance.

I will also need to balance and prioritise competing interests in managing one’s time, and will look to develop systems to track my own progress in the first half of my stage 1. Using design sprints and software like Jira works well for me so I will use this as a starting point, and this also works nicely with a git workflow for analyses.

2021

Q1: Case studies identified. HREC submitted. Training modules complete.

Q2: Toy cases examined for case studies. Trying to extract generalisable principles.

Q3: Early results finalised.

Q4: Audience and possible product planning.

## Impact, Engagement and Collaboration

At the end of PhD I want:

\* A network of like-minded practitioners

\* Have sowed seeds of interest by presenting / papers / collaboration

Finding people in the LA field with similar interests. This should match with the career goals – aiming to build networks in the LA community amongst both secondary and tertiary education systems. Attending conferences will help (LAK, EDM, ACT, ASCILITE, HERDSA some options) and presenting / publishing.

Reactivating my dormant blog and posting thoughts there. Making sure it is an easy place for people to find me and my research. As my project has a risk of becoming heavily theoretical / abstract, then finding answers to the 'so what?' question at regular intervals will be key and the blog will be a good place to record these kinds of musings that don’t quite fit with a paper / conference talk as neatly.

Investigate governance structures in universities / schools (including international) / political context.

Q1: Tidy up online space (e.g. blog). Track potential collaborators during Lit Review process.

Q2: LAK (reg by 25 Feb)

Q3: HERDSA, STARS conferences. Presenting at HERDSA.

Q4: Engaging / collaboration with a group linked to career planning in some way (e.g. secondary school LA groups)

## Career Planning

In my future I see three broad categories of job that I am interested in:

\* Professional services in Tertiary Education, with continued academic writing / research in LA.

\* Traditional academic role, research in LA, data or mathematics.

\* High School role with LA focus and continued participation in the LA research community.

All require networking within the Learning Analytics community and building contacts and collaboration over the course of my PhD. Establishing contacts with individuals and groups in the field that have similar research interests is a goal of mine for the first stage of my PhD. The High School sector is a bit different, in that the community is smaller and more dispersed and might be a bit more challenging to intersect with. As such I plan to attend conferences / workshops and the like plus reach out to individuals or special interest groups in each of these fields during my stage 1.