Framework for future proofing the eResearch workforce: recruitment, evaluation, upskilling and retainment of complex socio-technical problem solvers

Rowland Mosbergen[1]

Rowland Mosbergen[1], Kheeran Dharmawardena[2]

[1]University of Melbourne , Melbourne, Australia, rowland.mosbergen@unimelb.edu.au
[2]Cytrax Consulting, Melbourne, Australia, kheerand@cytrax.com.au

ABSTRACT

The Eresearch Workforce Is Highly Adaptable And Can Solve Complex Problems Even When There Are High Amounts Of Ambiguity In The Scope. Over The Last Decade, It Has Developed Innovative Approaches To Solving Eresearch And Research Infrastructure Challenges. In The Data Driven World Of The Future, This Makes It A Good Example Of What Australia's Workforce Will Look Like[1].

Today, the eResearch sector is starting to become aware of the need to address complex socio-technical challenges to meet the demands of tomorrows research. In order to meet these challenges it is necessary to have a workforce that is skilled in not only addressing the sophisticated technical challenges, but also be able to handle the complex socio-technical challenges.

To address this, the recruitment, evaluation, upskilling and retainment of this workforce is crucial, as it is difficult to find staff who can work within an ambiguous environment and who also have the socio-technical problem solving skills. The cost of training is high and takes a significant amount of time to develop the workforce with sufficient skills and experience to address these challenges.

Currently there are no workforce planning frameworks that focus on the eResearch sector to provide guidance for organisations to recruit, train and grow the workforce required to meet the needs of the future.

So how do we build, keep and maintain a future proof workforce right now?

Drawing on contemporary thinking on the future workforce[2][3][4], this paper we will present a possible framework for eResearch workforce planning. It will aim to provide a mechanism for balancing the traditional focuses of skills and experience based recruitment with emerging traits of the future workforce.

The framework proposed aims to provide practical value to both the institutions and the individual. At the institutional level, the framework provides a mechanism of identifying the categories of skills that need to be present and developed within its eResearch workforce. At the individual level, the framework provides a mechanism of identifying the skills and the competency level required for professional development.

It is hoped that by having a guiding framework, that incorporates both the hard and the soft skills, it would provide the foundation for building a workforce that is able to solve complex socio-technical problems demanded to address tomorrows research challenges. It is also hoped that by having a workforce planning framework, it increases the chances of retention of the skilled workforce within the eResearch community.

It is hoped that we might be able to trial our framework within organisations associated with the Research Software Engineering[5] community.

REFERENCES

1. Hajkowicz, S. A., et al. "Tomorrow's digitally enabled workforce: Megatrends and scenarios for jobs and employment in Australia over the coming twenty years." Australian Policy Online (2016).

2. Gekara, Victor, Darryn Snell, Alemayehu Molla, Stan Karanasios, and Amanda Thomas. "Skilling the Australian Workforce for the Digital Economy," May 8, 2019. https://apo.org.au/node/234346.

3. Gallagher, Sean. "Peak Human Potential: Preparing Australia's Workforce for the Digital Future," June 12, 2019. https://apo.org.au/node/241456.

4. Marini, Giulio, William Locke, and Celia Whitchurch. "The Future Higher Education Workforce in Locally and Globally Engaged Higher Education Institutions: A Review of Literature on the Topic of 'the Academic Workforce,'" no. Centre for Global Higher Education working paper no.43 (March 15, 2019). https://apo.org.au/node/232686.

5. RSE AU/NZ community - Recognition for Researchers who Code. Last accessed 20th June 2019. https://rse-aunz.github.io/