

Pandemic disruption to PhD research is bad for society and the economy, but there are solutions

January 18 2022, by Catherine Whitby



Credit: Karolina Grabowska from Pexels

Every year thousands of students enroll in Ph.D. degrees at universities in New Zealand. The government funds their degrees because the

advanced knowledge and innovations they develop [benefit our economy and society](#).

But there is [growing concern](#) about the impact of COVID-19 on doctoral students. It's feared some will abandon their degrees, with real implications for the potential future social and economic benefits of the research.

Ph.D. students are required to do extensive research and document their findings in a thesis. Many do this using specialized equipment available only on university campuses.

Due to the lockdowns in the past two years, however, most were locked out of their labs for several months. Given the ongoing uncertainty, how can we help students whose degrees are being disrupted?

The funding problem

The government bases funding on the assumption a Ph.D. takes three years to complete [full-time](#), plus the time for thesis examination, meaning universities are funded for these degrees for four years.

Universities also award top students three-year scholarships to help pay their living expenses while they do their research. Some offer grants to students while they write their thesis and are examined during their fourth year.

But while scholarships and funding are time-dependent, progress depends on how much research a [student](#) gets done. They need to make enough discoveries to write a 100,000-word thesis. Despite completing annual (or six-monthly) reports on their progress, many find it [hard to measure and plan](#) their research.

[One study](#) showed students took longer than expected to finish, even before the pandemic: 50% of full-time students took more than four years and one month to complete their degrees.

Stalled research and disrupted study

We don't yet know how long Ph.D.s will be extended as students try to recover time lost due to the pandemic. But closing university campuses during the lockdowns stalled many research projects.

Health scientists at the University of Otago, for example, estimated [95% of their projects were affected](#). Like their [overseas counterparts](#), even those who could work from home struggled to make progress due to limited access to supervisors and colleagues.

Now back in their labs, students are having to [adjust their research plans](#). A study by Te Pūnaha Matatini [highlighted](#) how vulnerable our doctoral students are to the ongoing crisis. Many need funded extensions to complete their research. They also face [shrinking job prospects](#) in academia.

The danger is some will abandon their degrees. Surveys suggest up to 25% of Ph.D. students in [Australia](#) and [Canada](#), for example, may halt their training.

Losing a similar proportion of students in New Zealand will disrupt the research workforce that supports economic growth and social development.

The power of 'small wins'

These are big challenges. A report from the Ministry of Business,

Innovation and Employment identified that universities, policymakers, funders and the community will need to work together to [protect the future of the research sector](#). In the meantime, I think two smaller changes could make a difference.

Improving how students measure their progress will increase the rate at which they complete their degrees. It is natural for students to struggle. They are searching for new data and insights in their field—stuff that is hard to find.

A [recent survey](#) highlighted that students who feel stuck, and think they have no significant results, are less likely to finish.

Currently, there are two major milestones in most Ph.D. programs. Students are assessed at the end of their first year and must have made enough progress developing their research project to continue their degree. After that, the next milestone for most is submission of their thesis.

Breaking thesis preparation down into manageable chunks during the years in between should help. Researchers following [3,500 European students over 30 years](#) observed a jump in thesis completions when stricter deadlines for submission of thesis chapters were introduced.

Helping students make their progress tangible takes advantage of what we know about the [power of small wins](#).

Better career advice

The second change involves upgrading the career advice offered to students. Around the world, Ph.D. students aim for a [career in academia](#). They often rate the alternatives as second best.

But [analysis of the national research workforce](#) in 2020 by the Royal Society of New Zealand showed around 75% of Ph.D. graduates are employed outside universities. It's vital, therefore, that students receive high-quality information about alternative careers.

Researchers at ANU have developed [artificial intelligence tools](#) that can analyze thousands of job advertisements and identify those suitable for Ph.D. graduates. They found 80% of adverts for highly skilled researchers do not target people with Ph.D. qualifications.

Taking advantage of the information provided by tools like this will improve how universities train students for their future careers. A better understanding of the demand for research skills should enhance the contribution Ph.D. graduates make to the New Zealand economy.

And it will mean the next generation of researchers is ready to support the recovery from the pandemic.

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