# The case for learning through research

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There is currently increasing pressure on universities to demonstrate how they contribute to their host societies. In the 21st century knowledge society, universities are seen as providing the key raw materials for economic growth, creating knowledge through research activities.

A new ideal-type of university has emerged, the 'world-class university' bringing together the best talents, researchers and facilities to drive national economic development. A wide range of countries – from France to China, from Germany to Saudi Arabia – have embraced this model and selectively rewarded universities conforming to that ideal.

But alongside pressure to be 'world class', universities are also under pressure from increasing student numbers unmatched by resource growth. Universities have responded by increasing efficiency of student delivery, reducing drop-out rates, increasing class sizes and standardising teaching activities.

## Diffused learning

Standardisation has included breaking teaching down into discrete learning elements directed towards pre-specified learning goals. Responsibility for students has become increasingly diffused across many staff with different pedagogic, administrative and knowledge competencies.

There is a growing concern that this produces students unable to use their theoretical knowledge practically to solve contemporary social challenges and contribute towards innovation. More concretely, just as universities are undertaking increasing volumes of research, barriers are being erected to using students to take that knowledge into the world.

This contrasts harshly with what the sociologist Gerard Delanty termed the 1960s democratic mass university, an ideal single tight-knit staff-student community engaged in teaching, research and service ideals. The campus community universities developed in this period, in Twente in the Netherlands, Lancaster in the United Kingdom and Bielefeld in Germany, remind us of these lofty ideals, replaced today with increasingly individualised student experiences.

Implicit in the changes occurring is an argument that these learning communities are anachronistic, irrelevant and ineffective for equipping students for contemporary labour markets. The split drives efficiency – teaching focuses on making students labour-market ready and academics can concentrate on 'world-class' research.

But we are not convinced that there is much of a future in the 'unbundled' university where teaching and research are separated out – not out of any principled commitment to the Delantian democratic mass university ideals, but rather because we can see considerable opportunity costs brought about by imposing a split.

A pair of Erasmus projects (FINCODA and Climate KIC Certified Professional) recently reported back to the European Commission's Directorate General for Education on teaching innovation competency. Their findings – perhaps counter-intuitively – highlight the need for students to develop many of the kinds of skills that can only be learned by undertaking research.

## New ways of thinking

A student research project usually takes place in an external context, thereby exposing students to new

experiences and ways of thinking. In their research projects, students should learn the skills of working across organisational borders, dealing with different kinds of knowledge and different limiting conditions, exactly those skills that facilitate operating innovatively in the world of work.

And in unbundling teaching from research, any efficiency gains come at the expense of the potential benefits that student research can bring to the university. Precisely by operating in diverse real world contexts, students can act as antennae for their supervisors, exploring and gathering data that can ultimately help academics identify new research subjects.

Although some academics might fear quality issues in student research, or think that this is something that is only for 'teaching-led' universities, there are many examples of student research making a difference in the real world. One of the authors of this article edits a journal with a section dedicated to early career research and some of our most popular papers have been produced (under supervision) from masters' research projects.

At the University of Twente, a research-led technical university, our students have made genuine breakthroughs, including a bachelor degree student who devised a non-invasive blood test for bilirubin levels in newborn babies. Given one of us fathered two children who both suffered from jaundice, you'll never persuade us that that is not quality research!

Within the Center for Higher Education Policy Studies at the University of Twente, we are currently exploring practical ways to involve students more actively in research communities with the aim of enriching both the student learning experience and academic research capacity.

Our recently launched OPENUNI project seeks to explore how students undertaking research placements participate within the learning community of academic departments to explore whether there is evidence of this mutually enriching effect.

**Driving innovation**

We have currently completed our first pilot study of a medical technology department where a number of students were allocated office space in the department to undertake their research. The initial results seem promising in that we identified ways in which students have actively participated in the departmental research community.

In OPENUNI we were able to look at how these student projects contributed to strengthening the departmental research agenda and how their research taught the students innovation competencies. With the caveat that these are preliminary results that have not been peer reviewed and that the evaluation is ongoing, we believe we have found enough to warrant further and more systematic research into this phenomenon.

That's not to say that all student research can make a contribution to universities and to society, or even that the majority of it can. What seems promising here is that it can happen, even where it is not specifically managed to that end. That seems to offer a promising avenue for future development to help us understand whether these processes can be better managed by universities and faculties while maintaining this win-win situation.

Our experience shows how teaching just as much as research helps to drive innovation in the contemporary knowledge economy. We hope that our results inspire more universities to ensure their students can participate more actively within their academic research communities.

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