8 steps to improving learning and teaching through research

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8 steps to improving learning and teaching through research

by Dr Shelley Kinash, Director of Learning & Teaching, skinash@bond.edu.au
26 January 2015

One of the key differentiating characteristics of Bond University is our distinctive value proposition in the area of learning and teaching. We strive to make an outstanding contribution to student learning, engagement and the overall student experience. For many years in a row, Bond University has been
ranked first in the nation for the quality of the student experience and quality of our teaching and learning. Further, we were recently ranked fifth in the world for the quality of the international student experience.

As a leader in learning and teaching, we have an opportunity (and some would say an obligation) to build and share new knowledge and application with others to advance the overall sector of higher education. Learning and teaching has become one of our pillars of renowned research excellence. As evidence of this research success, Bond University has been awarded five Category One Research Grants through the Australian Government, Office for Learning and Teaching.

<table>
<thead>
<tr>
<th>Awarded Grant Leaders</th>
<th>Research Title</th>
<th>Year Awarded</th>
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</thead>
<tbody>
<tr>
<td>Shelley Kinash, FSD</td>
<td>Supporting graduate employability from generalist disciplines through employer and private institution collaboration</td>
<td>2013</td>
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<tr>
<td>Linda Crane, HSM</td>
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<tr>
<td>Shelley Kinash, FSD</td>
<td>Measuring and improving student course engagement and learning success through online student evaluation systems</td>
<td>2013</td>
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<tr>
<td>Colette Southam, BUS</td>
<td>Enhancing graduate employability of business school alumni through establishing an Australian Business Case Network</td>
<td>2014</td>
</tr>
<tr>
<td>Shelley Kinash, FSD</td>
<td>Engaging postgraduate students and supporting higher education to enhance the 21st century student experience</td>
<td>2014</td>
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<tr>
<td>Linda Crane, HSM</td>
<td></td>
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<tr>
<td>Mark Dinnen, FSD</td>
<td>Is participation in technology enhanced Model United National Conferences the employability skills solution for learners?</td>
<td>2014</td>
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</table>
In addition to research grant success in the field of higher education learning and teaching, Bond University is also highly successful in receiving National Citations for Outstanding Contribution to Student Learning. Four Bond University academics received National Citations in each of 2013 and 2014. One of the main criteria for receiving this award is evidence of contribution to learning, which necessitates teaching and learning research. The Citation recipients collected, reported and analysed data demonstrating that their contributions/innovations improved student learning outcomes.

Four of our key actions at Bond, as articulated in our Strategic Plan, are to –

- **Ensure the highest quality of teaching.**
- **Build a set of activities and events that communicate the influence and impact of Bond’s activities, especially research and community.**
- **Develop a research strategy that concentrates areas of research excellence.**
- **Establish external partnerships with high profile research organisations to affiliate with Bond.**

In other words, conducting learning and teaching research are key actions of Bond academics.

Here are three of the most popular reasons why Bond University teachers conduct learning and teaching research.

1. Learning and teaching research enables Bond teachers to refine their approaches and thereby ensure the highest quality of teaching and an outstanding contribution to student learning.

Learning and teaching research benefits our own students. Through an evidence-based approach, it helps us to become better teachers.
2. Bond teachers seek to build new knowledge and share this knowledge with others.

Learning and teaching research benefits other teachers and their students. It helps the higher education sector to improve.

3. Conducting and publishing learning and teaching research is a rewarded academic activity.

Learning and teaching research can lead to academic promotion, PDR bonuses and benefits, and internal and external awards and grants.

The rest of this article is written for teachers. Here are –

8 steps to improving learning and teaching through research

1. Observation

The first step is to indulge your curiosity. What do you observe about your students and/or your teaching that makes you wonder? For example, do you wonder whether students work harder when they are allowed to choose their own groups or when you assign them to groups? Have you observed a change in student attendance when you put more materials online?

2. Question

Pose a question. The question should be meaningful, doable and measurable. An example is found in the title of Mark Dinnen’s awarded national grant - Is participation in technology enhanced Model United National Conferences the employability skills solution for learners?

3. Hypothesis

Form a hypothesis. Justify that hypothesis through conducting a review of the literature. What are the key findings of other research studies posing similar questions?
4. Aims

What do you aim to accomplish through this research? As an example, in the awarded national grant on postgraduate student experience, Kinash and Crane outlined the following aims -

The project aims are: (i) to undertake a comprehensive analysis of the broad experiences of Australian coursework postgraduate students, and the relationship of these broad experiences have to learning; and (ii) to establish evidence based recommendations, including best practice guidelines, that can be used to impact and enhance Australia’s postgraduate students’ broad experiences.

Note that these aims define a specific topic of research and identify the intended application and impact of the research.

5. Method

Education researchers use qualitative, quantitative and mixed-methods research methodologies. Some of the commonly used approaches are:

- Design-based research
- Quasi-experimental research
- Survey analysis
- Phenomenology
- Critical theory
- Ethnography

It is important that the method suits the question and context. One way that many researchers decide which method/s to use is by reading published research that posed similar questions. Which method/s did these researchers use and what were the strengths, limitations and outcomes produced?
6. **Results (Data and Analysis)**

The next step is to record and report the data and then analyse that data. Data is often presented through tables and figures. Quantitative data can be analysed through descriptive statistics and sometimes through correlations. Validity and reliability are important to establish. Are your conclusions accurate based on the data you have collected? If another researcher was to follow the same approach you described would she/he derive the same results? What if the research were conducted with another class? Qualitative data is often analysed by themes. What were the salient themes and what do they indicate? How do these themes apply beyond those included in your research?

7. **Discussion**

The researcher now considers the data with respect to the posed research question/s. What conclusions can be drawn based on the results? What further questions were provoked? Was there anything surprising? Was your hypothesis confirmed? Do your results align with the results of published research studies? Why or why not? What are the implications and applications?

8. **Conclusion (Application, Limitations, Dissemination, Engagement, Impact)**

One of the differentiating characteristics of learning and teaching research is that it is usually *applied* rather than *pure*. The reason you are conducting learning and teaching research is often to inform improvements to your own teaching and your own students’ learning. Perhaps you want to know whether there is evidence that an innovation you have implemented is actually making a measurable difference to student learning. You might have an idea that you believe will improve higher education overall and you want evidence so that you can convince others to adopt this approach. It is therefore important that you discuss the application. In addition, it is important to clearly depict limitations. For example, should readers be cautious about application of your findings given the small number of people interviewed? Dissemination through publication, presentation and facilitation of professional development will heighten the impact of your learning and teaching research. Improving the learning experience of your own students is important; sharing your successes with others will heighten the impact.