Conducting Pedagogic Research

A Short Introduction

Pedagogic research, also known as the scholarship of learning and teaching (SoTL), is the systematic inquiry into student learning which advances the practice of teaching in higher education by making both the process of inquiry and its findings public (Hutchings and Shulman, 1999). SoTL encompasses aspects of professional development and academic development such as how teachers can not only improve their expertise in their fields, but also develop their pedagogic expertise – i.e. how to better enable the learning of novice students in a particular field. This also includes the study and implementation of modern teaching methods such as active learning, problem or team-based learning, and blended approaches to learning.

> “Conducting pedagogic research enables educators to intentionally examine their own practice, reflect on pertinent issues and challenges, evidence effective practices, and share experiences to allow fellow practitioners to learn and/or model from this, thus improving a particular aspect of education more widely.”

Overview

Pedagogic research is a field of academic discourse that has an established heritage. Put simply, it involves the careful investigation of pedagogic practice with the aim of improving learning and teaching, and in turn wider curriculum design. This comprises the systematic and evidence-based study of student learning, typically conducted through small-scale research projects that engage students (Hutchings et al. 2011).

Pedagogic research is a recognised form of self-study that involves the researcher engaging in an intentional process of reflection and reflexivity on their current practice, which may lead to new knowledge and/or modes of practice. As a form of research it frames investigations of different modes of learning, along with the most appropriate and effective teaching approaches. As with all rigorous research processes, there is need for researchers to be well-informed and in a position to be critically reflective.

Conducting pedagogic research has the overarching goal of improving the quality of education both in a particular field of study and in higher education more widely through the dissemination of best practice to university colleagues.

5 principles of good practice in SoTL

Felton (2013) identifies 5 principles of good practice in the scholarship of teaching and learning (SoTL):

(1) **Inquiry focused on student learning**. Learning is understood broadly to include not just disciplinary knowledge or skill development, but also the cultivation of attitudes or habits that connect to learning.

(2) **Grounded in context**. Inquiry is situated in and designed to be sensitive to a local context and the dynamics of a particular research design/methodology, framed by relevant theory, practice-based literature and prior research.

(3) **Methodologically sound**. The intentional and rigorous application of research tools that connect the question central to a particular inquiry to student learning.

(4) **Conducted in partnership with students**. Though full partnership with students may not be practical or appropriate, good practices requires engaging students in the inquiry process.

> Research projects may involve small scale changes in a classroom, or a larger scale interventions across the whole curriculum. Whatever the focus, these are important steps to consider when conducting pedagogic research.

(5) **Going public**. Both the process and the products of inquiry are made public throughout the development of the research project through regular dissemination of progress and findings.

6 Steps to Pedagogic Research

1. Identify a research problem and question.

It is common for research questions to focus on situations associated with common experiences within the classroom or related to interactions with students. It may already be clear which aspect of practice you want to focus your research project on – i.e. an area of practice you wish to improve. You may also have a sense of the type of intervention you wish to implement. It is important to have a clear research question in mind, as well as goals for the research project itself.

A useful place to begin is to identify an unexplored aspect of existing pedagogic research or an area of research where there is currently a limited evidence base that maps to a focused problem you wish to consider. It is also helpful at this early stage to start to think about potential audiences for the dissemination of subsequent work. Consider the following questions:

- *What specifically do I want to know about student learning in my discipline and in what ways do I want to develop it?*
- *What area(s) of my practice do I want to develop and what specific outcomes do I want to achieve?*
- *How and why will these outcomes be useful for advancing the work of other practitioners and how do I most effectively communicate them?*

2. Take steps to prepare adequately for your research project.

It is important that you take steps to ensure you are as prepared as possible before initiating your research project. Situating pedagogic research within theoretical and conceptual frameworks by conducting a literature review relevant to your discipline and education context serves to demonstrate a wider understanding of the research process. It will also help you to refine the study and methodology in light of available evidence.

It is important at this early planning stage to identify a framework on which you are able to build your research questions and frame your methodology. Take care to define a research question that enables you to explore, understand and improve student learning in specific contexts. This will ensure that the practice-level value and application of your research findings are ‘built in’ to your research design. It can be useful at this stage to discuss your research plans with colleagues and even to seek out willing collaborators. Consider the following questions:

- *Who are my students and how do they best learn in the context of my discipline/subject area?*

Whatever the approach chosen, careful design is a necessary first step to ensure that the philosophical stance and methods are aligned to the focus and aims of the research question.

FUTURE FACING LEARNING

- *What does the literature tell me about the issue(s) relevant to my particular research focus?*
- *What interventions or activities could I design that most effectively respond to my research problem?*
- *How do I effectively measure and evaluate the impact of my practice on student learning?*

3. Formulate and deploy an appropriate research methodology.

Investigating changes to such a diverse and often nuanced topic as education practice means pedagogic research can be conducted using a range of quantitative and/or qualitative methods, including critical reflection, interviews, focus groups, questionnaires and surveys, content analysis of existing texts, detailed first-person descriptions through ethnography or phenomenography, or even observational research.

Where appropriate and practicable, it can be helpful to triangulate your methods (collecting data relevant to the study from several sources) to validate emergent findings. It can also be useful to keep a regular research journal or research blog to capture your process and thinking throughout the research process, as this can often aid with the analysis and write up phases of the work.

Consider the following questions:

- *What available methods best fit the focus, aims and context of my research?*
- *Who are my research participants and how can I most effectively engage them in the research process?*

4. Secure ethical approval

Conducting pedagogic research should be ethically sound for two main reasons; firstly, it serves a protective function for both the researcher and researched alike, and secondly, it helps to support the professional conduct of a research endeavour. Though ethical clearance should be secured at the beginning of a study, it is important that ethical considerations form an ongoing part of the research 'lens' as the study progresses.

For more information on the ethical approval process and TU's research policies see here. The British Educational Research Association (BERA) also provides a wide range of information about research ethics and guidance for seeking ethical approval – see for here further details.

5. Evaluate your results appropriately

When establishing appropriate strategies for the analysis of data generated through the research process, it is important to be aware that data may represent the meanings particular groups of people attribute to their experiences and social worlds. Quantitative data can be analysed to establish relationships or correlations, and can provide generalisations to a wider population. Qualitative data analysis strategies involve a range of processes (i.e. coding and indexing) allowing for the organisation of the text to help develop concepts or situate theories.

> "Most pedagogic research is carried out in naturalistic settings where it can be difficult to control variables without disadvantaging certain groups of students. Mixed method approaches can be used to explore situated impact of an educational intervention."

Data analysis software such as Nvivo / SPSS are supported and made available by the University to aid with the data analysis and data management processes. It is important that you take steps to plan your data analysis at the same time as formulating your research design to ensure alignment between research design, methods of data collection and strategies for data analysis.

6. Capture and disseminate your research findings

Choosing how to writing up and present the evidence and results of your study or intervention is a key step in the pedagogic research process. The evidence generated at this stage should also be fed forward into designing and refining new activities and interventions for further iterations of the research, setting up a reflexive cycle of inquiry that is central to good SoTL. When reviewing the key findings from your study/intervention, consider the following questions:

- *What has been the key learning from conducting this research? What has worked and what perhaps didn't work as intended?*
- *How has the intervention/activity captured developed study learning?*
- *What is the value of my intervention to others?*

Disseminating your research project and findings in the form of journal articles and conference papers – whether this be work-in-progress or work completed – provides an opportunity for peers to comment, critique and build on the methodological and practice insights captured in your study/intervention.

It can be helpful to involve students in this phase of the research process, inviting them to feedback and suggest next steps. In the planning phase of the your research project it can be a good idea to seek out and map to opportunities to share your work internally, through School and/or institutional learning and teaching fora, or (inter)nationally through open-access publications and conference presentations. This can provide greater focus not only in the framing of your research methodology, but also in how you chose to go public with your research project and its key findings. Consider the following questions:

- *How can I engage others with my research findings so that I can gain meaningful feedback on my research study/intervention?*
- *What impact does my research seek to have and who is most likely to be interested in such outcomes?*

To find out more, start here …

- Cleaver, E., Lintern, M. and McLinden, M. (2018). *Teaching and Learning in Higher Education: Disciplinary Approaches to Educational Enquiry*. London: Sage.
- Cousin, G. (2009) *Researching Learning in Higher Education: an introduction to contemporary methods and approaches*. London: Routledge.
- Fanghanel, J. (2013). Going public with pedagogical inquiries: SoTL as a methodology for faculty professional development, Teaching and Learning Inquiry, Vol. 1, No. 1: 59-70.
- Felton, P. (2013). Principles of good practice in SoTL. Teaching and Learning Inquiry, Vol. 1, no. 1: 121-125.
- Fung, D. (2017). "Strength-based scholarship and good education: The scholarship circle." Innovations in Education and Training 54, no. 2: 101–110.
- Healey, M. (2000). "Developing the scholarship of teaching in higher education: A discipline based approach." Higher Education Research & Development 19, no. 2: 169–189.
- Hutchings, P., Huber, M. and Ciccone, A. (2011). The Scholarship of Teaching and Learning Reconsidered. San Francisco: Jossey-Bass.
- Laurillard, D. (2013). Teaching as a design science: Building pedagogical patterns for learning and technology. Routledge.
- McNiff, J. (2017).You and your action research project. London: Routledge.
- Norton, L. (2018). Action research in teaching and learning: A practical guide to conducting pedagogical research in universities. London: Routledge.
- Reason, P. and Bradburn, H. (2013). The Sage handbook for action research: participative inquiry and practice. London: Sage.
- Tight, M. (2012). Researching Higher Education. Milton Keynes, UK: Open University Press.
- Wood, P., & Cajkler, W. (2018). Lesson study: A collaborative approach to scholarship for teaching and learning in higher education. Journal of Further and Higher Education, 42(3), 313-326.

Dissemination

How can I share my research findings?

Pedagogic research may be included in the University's REF submission through discipline-based units (where appropriate) or through the formal Education Unit of Assessment. Today there is a vast array of possible outlets for pedagogic research. Teesside University hosts annual spring and summer learning and teaching conferences that provide opportunities for colleagues to share and discuss pedagogic research projects at every stage of development. Organisations such as Advance HE (AHE), International Society for the Scholarship of Learning and Teaching (ISSOTL), and the Society for Research in Higher Education (SRHE) hold annual conferences that are generic in focus, addressing a range of contemporary issues and themes relating to pedagogic research and academic development.

Preparing to go public

1) Know your audience.

It is important that you do your research into the different kinds of pedagogic research journals that are out there. Each journal has its own remit, along with particular requirements that articles must meet in order to be published. For this reason, each Journal will have a slightly different readership. It is also important to align prospective readership with considerations around journal impact factor. New or early stage research might place better with journals with a lower impact factor, but who have a remit for new, exploratory, research. Other journals will want to see a more established evidence-base but offer a higher impact factor.

Read articles from different pedagogic research journals to get a sense of the style and general interests of the readership. It can be very helpful to read and understand a journal's aims and scope.

2) Find a critical friend and/or forum

Letting your peers read early drafts of your work provides opportunity for you to receive different types of feedback that then allows you to revise it before submission.

Finding an accessible forum of colleagues through which you are able to share and discuss ideas and progress, as well as more concrete drafts of written work, can provide a formative support structure as you hone and develop your research project as a whole (including writing it up for publication).

Ask yourself: who has particular experience that will be useful for me to draw on for this work? Can I identify colleagues who are likely to be part of the readership for my work, and can I work with them to establish the kinds of detail and information they are after from an article with this focus?

3) Think impact!

Start thinking about these key points early on in the research process (see also Taylor and Francis Author Guidance):

- Choose an effective title: be concise, accurate and informative.
- Write an abstract that captures the key information of your research and findings. Be sure to write succinctly, describing clearly the 'key messages' of your article.
- It is important that you choose key words carefully to maximise the readership of your article. Positioning your work in relation to recognised concepts and theories can be helpful here.

> “Pedagogic research projects that yield maximum impact study learning processes, seek to partner with students both in the development and evaluation of the research itself, intentionally engage a recognised body of research (i.e. assessment literacy), and provides critical reflection on the nature and outcomes of changes made. Because of this they are relevant to a wide professional audience, especially when made accessible through various open-access forums.”

Sharing your findings and intervention

TU Learning and Teaching Forums:

- TU’s annual spring and summer learning and teaching conference provide a platform for sharing your work This forum is focused on the dissemination of innovations in learning, teaching and student support.

UK Higher Education Conferences and events:

- International Assessment in Higher Education conference. See more details here.
- British Educational Research Association (BERA) conference and events. See more details here.
- Advance HE (AHE) annual conference and discipline events. See more details here.
- Society for Research into Higher Education (SRHE) conferences and events. See more details here.
- Staff and Education Development Association (SEDA) conferences and symposia. See more details here.
- Association for Learning Technology (ALT) conference and events. See more details here.

International Higher Education Conferences and Events:

- Higher Education Research and Development Society of Australia (HERDSA).
- Educause (Information Technology and Learning Spaces in Higher Education, USA).
- International Society for the Scholarship of Teaching and Learning (ISSOTL).
- The Institute for Learning in Higher Education (LiHE) offers a series of international collaborative writing events around the production of scholarly outputs mapped to specific focus areas. See more details here.

Cross-disciplinary Higher Education Journals:

- Review of Educational Research.
- Studies in Higher Education.
- Journal of Higher Education.
- Assessment and Evaluation in Higher Education.
- Teaching in Higher Education.
- Higher Education Quarterly.
- Assessment in Education: priorities, policies, and practice.
- Teaching and Learning Enquiry.
- Student Engagement in Higher Education Journal.

Sam Elkington, 2020
For further support or to discuss your research queries, please contact:
s.elkington@tees.ac.uk