



Teaching toolkits

Researching your teaching practice: an introduction to pedagogic research

The Academic Careers Framework at UCL recognises that education activities which support students to learn can strengthen an application for promotion. This includes contributing to pedagogic research.

When applying for UCL Arena Fellowships (nationally recognised teaching awards accredited by the Higher Education Academy), contributing to pedagogic research is recognised in the UK Professional Standards Framework (UKPSF) as an area of activity [A5] and as a professional value [V3].

At the heart of both the UKPSF and pedagogic research is a philosophy of reflective practice, dissemination of research, engagement of students, and attention to disciplinary specificity.

What pedagogic research means

Also known as the scholarship of teaching and learning (SoTL), or education enquiry, pedagogic research is an established field of academic discourse involving carefully investigating your teaching practice and in turn developing the curriculum.

It requires a systematic and evidence-based study of student learning, often through a small-scale research projects engaging students.

Pedagogic research is a form of self-study, and/or action research involving critical reflection and reflexivity on current practice, which gives way to new knowledge. It encourages investigating learning, including what works and what does not.

As with any rigorous research endeavour, you will need to be well-informed and critically reflective.

Pedagogic research has the goal of improving the quality of education locally and further afield, through dissemination of best practice to colleagues at UCL and beyond, in conferences and in either discipline-specific education journals or education-focused journals.

Pedagogic research brings together key objectives in UCL's Education Strategy, by encouraging:

- active connections between education and research
- reflection on and development of our education provision
- connections between staff and students in partnership to improve education.

Pedagogic research allows educators to examine their own practice, reflect on successes and challenges, and share experiences so others can learn from this, improving education more widely.

Consider aligning your research to UCL's education strategy

A number of pedagogic research projects focus on research-based education, specifically through uncovering answers to the following:

“What kinds of impact, if any, does UCL's research-based education strategy (Connected Curriculum) have on changing real practice within and across the disciplines, at UCL and beyond?”

Contact connectedcurriculum@ucl.ac.uk to find out more and get involved in this research.

Pedagogic research will support a community of scholars

Making transparent how learning is possible and developing practice may well involve collaboration with students in research activities and data collection. Students are well-suited to be co-researchers on pedagogic research projects.

Engaging with the existing body of scholarship will position your work in a larger field and allow you to contribute to the community while learning from others.

Finally, sharing your findings in public forums to help others develop practice will support community-based and shared knowledge construction.

Pedagogic research resembles rigorous disciplinary research

Trigwell et al. 2000: 167

“You spend some time looking at different approaches to teaching and learning within a specific field of knowledge and about learning in general in that area.

You research how the knowledge is known and practised and applied within the discipline and you consider what others have done and then you plan your program and you monitor the results and improve it.

It is also about writing about it and communicating it to others in the larger arena. You communicate what you do locally so other students within the discipline or profession can be helped to learn and more can be known about how the learning is achieved and how thinking and knowledge is structured in the areas.

It's about reflective practice and it's about active dissemination of that practice for the benefit of learning and teaching.”

Subject disciplines have distinctive approaches to conducting research into education.

More on paradigmatic approaches to pedagogic research: Russell, N. (2014). *Approaching Educational Enquiry*, The University of Sheffield.

6 key steps to develop your own pedagogic research project

1. Identify the problem and set clear goals

Identify the focused problem you wish to consider.

You may already know the intervention or practice you would like to improve, but it is important to have clear goals in mind.

You may focus on overcoming a challenge you face in your education practice. Taking a problem-based approach will make connection between pedagogic research and discipline-specific issues.

For example, you could focus on massification and large class teaching, or developing cross-cultural understanding in diverse political science courses.

A helpful place to start is to identify a gap in the existing pedagogic research.

It's also useful at this early stage to begin thinking about potential audiences for disseminating your work. This will allow you to strategically frame the project in line with what stakeholders need to know; demonstrating the initiative has value will make the work more publishable and relevant to your career development.

- What do I want to know about student learning in my discipline and/or how do I want to develop it?
- What do I want to do to develop my practice?
- Who will I communicate my findings to?
- How will this goal advance the work of other scholars?

2. Prepare adequately and begin to implement your development

You'll want to be as prepared as possible.

Conducting a literature review relevant to your discipline and education context will help ensure your project has not already been done and help you refine the study and methodology.

Begin to implement your enhancement activity, for example through revising rubrics, assessment criteria or learning activities.

Avoid conducting a controlled experiment, where only some students receive the benefit of development.

Set a research question that allows you to explore, understand and improve student learning in specific contexts.

Discuss your plans with colleagues and students. Consider engaging collaborators.

Find out if an ethics application is required. At UCL, education research is generally considered 'low-risk', involving completing a simple 'low risk' ethics application form for Chair's review. Allow on average two weeks for review.

As part of the application process a participant information sheet and consent form need to be produced if you are recruiting participants to your study. Data protection registration is required only if you are using 'personal data'.

- What will my students learn and why is it worth learning?
- Who are my students and how do students learn effectively?
- What can I do to support students to learn effectively?
- What does the literature tell me about this issue?
- What activities will I design to improve education?
- What ethical implications are there?
- How will I measure and evaluate the impact of my practice on student learning?

Ethics and guidance: The British Educational Research Association (BERA) offers a wealth of information on ethics in their online guide.

6 key steps to develop your own pedagogic research project

3. Establish and employ appropriate methods of enquiry

In order to investigate changes to education practice, a range of methods could be employed, including:

- reflection and analysis
- interviews
- focus groups
- questionnaires and surveys
- content analysis of text
- Ethnography
- Phenomenography
- observational research and speculation.

Capturing students' views are important; they will value the opportunity to be involved in improving education at UCL.

Treat your programme as a source of data to answer interesting questions about learning: collect data available at your fingertips.

Your colleagues may also be able to contribute to the research.

Be sure to gain participants' consent.

- What methods do I need to employ to measure my practice?
- Who will I engage?
- What are my students doing as a result of my practice?

For more on methods:

- Cohen, L., Manion, L., and Morrison, K. (2007). *Research Methods in Education*. London: Routledge.
- Stierer, B. and Antoniou, M. (2004). Are there distinctive methodologies for pedagogic research in higher education? *Teaching in Higher Education* 9, no. 3: 275–285.

4. Evaluate results

Analyse your data using appropriate strategies.

Draw appropriate conclusions and critically reflect on your findings and intervention.

Return to earlier stages if further development or data collection is needed, before continuing with the project.

- How has student learning changed as a result of my practice and what evidence do I have?
- What lessons have I learned?
- What adjustments have been made to my teaching?

6 key steps to develop your own pedagogic research project

5. Prepare your presentation

Begin to write up your work, presenting the evidence and results of your intervention.

Use the evidence you gathered to design and refine new activities, assignments and assessments for further iterations. Be critically reflective.

- What worked and what did not go according to plan?
- What can others learn from my project?
- How has enhancement developed student learning?
- What makes my intervention worth implementing?

6. Share your project with others

Go public with your project and communicate your findings (whether work-in-progress or complete) with peers, who can comment, critique and build on this work.

Engage your students in the work and invite feedback.

Share results internally (at teaching committees, or in reports), across UCL (at the UCL Education Conference, or a UCL Arena event), or internationally (in open-access publications, and through conference presentations).

More dissemination ideas can be found overleaf.

- What can engaging others tell me about this development?
- What impact does my work actually have on others interested in developing their practice?

This may lead to you examining the medium and long-term impact of the education development project.

Engaging multiple stakeholders over a long period of time may result in returning to step 1, through another iteration of development.

How to disseminate your pedagogic research

Sharing your findings and intervention is an important part of pedagogic research.

Look to disseminate through the following forums.

With the UCL community

- Local teaching committees.
- Faculty education events.
- Write a case study for the UCL Teaching and Learning Portal.
- Propose to deliver an Arena event. Submit a proposal by emailing arena@ucl.ac.uk.
- Present at the annual UCL Education Conference.

Through publication

In a pedagogy-based book series: Palgrave's Critical University Studies Series

In a higher education journal, cross-disciplinary or discipline-specific:

- Active Learning in Higher Education
- Assessment and Evaluation in Higher Education
- Biochemistry and Molecular Biology Education
- Studies in Higher Education
- Teaching & Learning Enquiry
- The UCL Institute of Education library website has an updated long list of journals, both cross-disciplinary and discipline-specific.

At a higher education conference

Below are listed some ideas. Visit the online version of this guide for links to all.

Within the UK

- Assessment in Higher Education
- British Educational Research Association
- Higher Education Academy Annual Conference
- Higher Education Conference & Exhibition
- Society for Research into Higher Education
- Staff and Education Development Association
- Universities UK
- Wonkhe has a calendar of many major UK events and conferences.

Outside the UK

- Educause (Information Technology in Higher Education, USA)
- Higher Education Research and Development Society of Australia
- International Society for the Scholarship of Teaching and Learning
- Society for Teaching and Learning in Higher Education (Canada)

Successful pedagogic research

Projects with maximum impact:

- investigate learning processes
- partner with students in the research and education development
- engage the body of pedagogic research
- critically reflect on changes
- are relevant to a wide audience
- communicate through open-access forums.

“Teaching is the most impactful thing we do as academics in higher education.

The sheer number of students we encounter and influence over our careers is incredible.

Pedagogic research (SoTL) offers an opportunity for us as academics to refine our practice and to generate understanding through evidence of what works and doesn't in student learning.

In a research intensive institution, like UCL, pedagogic research offers us the chance to link the teaching and learning space more clearly with our research agendas, whilst at the same time contributing to opening up new opportunities to foster student learning.”

David J. Hornsby, Deputy Head of Department (Education), UCL STEAPP

An example of pedagogic research at UCL

“Recognising that students could better engage with core writing concepts through acting like a teacher, I designed peer review exercises to follow draft submissions of work, as part of a module I coordinate in The Bartlett School of Architecture.

After consulting the literature, I realised that there was very little by way of guidance on how to set this up.

Following the implementation phase, I held a focus group with students to find out their views, which were overwhelmingly positive.

This enhancement project also improved students' marks. I published this work and placed it on the module reading list, which helps underscore the value of this pedagogic tool and makes transparent the learning process.”

- **Brent Carnell**, UCL Arena Centre for Research-based Education and The Bartlett School of Architecture

Carnell, B. (2016). Aiming for autonomy: Formative peer assessment in a final-year undergraduate course. *Assessment & Evaluation in Higher Education* 41, no. 8: 1269–1283.

Where to find help and support

The following initiatives and opportunities are available to colleagues to support research:

- Meet with colleagues experienced in pedagogic research, including from the UCL Institute of Education or the Arena Centre for Research-based Education.
- Funding from UCL ChangeMakers to work in partnership with students to develop education.
- Funding from the Arena Centre for Research-based Education. Sign up to the monthly newsletter on the Teaching and Learning Portal to hear about the latest funding opportunities.

bit.ly/PedagogicResearch: to access this full online guide, including links and further resources.

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This guide has been produced by the Arena Centre for Research-based Education at University College London.

You are welcome to use this guide if you are from another educational facility, but you must credit the UCL Arena Centre.

Resource list

You can access the full list, including links to most, on the online version of this guide at bit.ly/PedagogicResearch

- A Guide to Scholarship of Teaching and Learning (SOTL), Vanderbilt University
- International Society for the Scholarship of Teaching and Learning resources
- Early-career researcher information and resources from the British Educational Research Association (BERA)
- Bass, R. (1999). "The scholarship of teaching: What's the problem?" *Inventio: Creative Thinking about Learning and Teaching 1* (February), no. 1.
- Boyer, E. (1990). *Scholarship Reconsidered: Priorities of the Professoriate*. Princeton, New Jersey: Carnegie Foundation for the Advancement of Teaching.
- Cleaver, E., Lintern, M. and McLinden, M. (2014). *Teaching and Learning in Higher Education: Disciplinary Approaches to Educational Enquiry*. London: Sage.
- Fanghanel, J., McGowan, S., Parker, P., McConnell, C., Potter, J., Locke, W., Healey, M. (2015). "Defining and supporting the Scholarship of Teaching and Learning (SoTL): A sector wide study." York, UK: *Higher Education Academy*.
- Felten, P. (2013). "Principles of good practice in SoTL." *Teaching & Learning Inquiry 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.
- Greene, M. J. (2014). "On the inside looking in: Methodological insights and challenges in conducting qualitative insider research." *The Qualitative Report 19*, no. 29: 1–13.
- Healey, M. (2000). "Developing the scholarship of teaching in higher education: A disciplinebased approach." *Higher Education Research & Development 19*, no. 2: 169–189.
- Healey, M. Resources from Professor Mick Healey (Higher Education Consultant and Researcher) - a range of resources including bibliographies and handouts.
- Hutchings, P. (2000). "Approaching the scholarship of teaching and learning." In *Opening Lines: Approaches to the Scholarship of Teaching and Learning*, by P. Hutchings, 1–10. Mento Park: The Carnegie Foundation.
- Hutchings, P., Huber, M. and Ciccone, A. (2011). *The Scholarship of Teaching and Learning Reconsidered*. San Francisco: Jossey-Bass.
- Koster, B. and van den Berg, B. (2014). "Increasing professional self-understanding: Self-study research by teachers with the help of biography, core reflection and dialogue." *Studying Teacher Education 10*, no. 1: 86–100.
- O'Brien, M. (2008). "Navigating the SoTL landscape: A compass, map and some tools for getting started." *International Journal for the Scholarship of Teaching and Learning 2* (July), no. 2: 1–20.
- Rowland, S. and Myatt, P. (2014). "Getting started in the scholarship of teaching and learning: A "how to" guide for science academics." *Biochemistry and Molecular Biology Education 42*, no. 1: 6–14.
- Tight, M. (2012). *Researching Higher Education*. Milton Keynes, UK: Open University Press.
- Trigwell, K., Martin, E. Benjamin, J. and Prosser, M. (2000). "Scholarship of teaching: A model." *Higher Education Research & Development 19*, no. 2: 155–168.