

A glossary for methods teaching

Research methods teachers often come from a variety of backgrounds, disciplines and methodological orientations. Consequently, a lack of shared pedagogic language – terms for the approaches and strategies in teaching - mean it can be difficult to discuss and deepen teaching practice. As dialogue between research methods teachers is a particular pedagogic asset in furthering methods teaching, this *Glossary* of definitions of some relevant pedagogic terms aims to facilitate conversations among research methods educators. It is based on research undertaken as part of NCRM's Pedagogy of Methodological Learning study¹. The study data indicate some methods teachers are able to talk about learning theory or pedagogy using a common vocabulary, others can describe but not name their approach and others still find it hard to put what they do into words. This glossary therefore may contain terms that are more or less familiar to you. The approaches overlap but have key characteristics that make them useful for teaching research methods. We invite you to use this Quick Start Guide alongside your own reflections to foster pedagogic conversations with colleagues.

Active Learning

Active learning approaches strive to involve and engage learners and usually comprise 'hands on' activities. Learners must be active in the learning process, rather than having knowledge transmitted to them. In this way active learning aligns strongly with constructivist theories of learning (whereby learners construct their understanding in a given learning context). Learners may read, write, discuss, analyse, synthesize, and evaluate. In methods teaching, active learning is prevalent in qualitative, quantitative and mixed methods where it is often associated with learning with and through data via exercises and activities involving data generation, manipulation and analysis. In methods settings, users of an active learning approach find it works well when the activity enables learners to connect directly with the complexities of a method and thereby make more sense of it.

Further reading:

Keyser, M. (2000) Active learning and cooperative learning: understanding the difference and using both styles effectively, *Research Strategies*, 17 (1), 35–44. [https://doi.org/10.1016/S0734-3310\(00\)00022-7](https://doi.org/10.1016/S0734-3310(00)00022-7)

Camille Peres, S., Lane, D. & Griggs, K. (2010) Using simulations for active learning: the query-first method in practice. *8th Int'l Conference on Teaching Statistics (ICOTS8)*, Ljubljana, 11–16 July 2010. https://iase-web.org/documents/papers/icots8/ICOTS8_9E2_PERES.pdf

Collaborative Learning

A collaborative learning approach encourages the sharing of ideas and tasks with the purpose of building on students' collective prior knowledge. It foregrounds learning tasks and activities structured through group work and teams in which everyone can participate. Notably, collaborative learning does not happen automatically, students may need support and to practice working together, with tasks structured to promote collaboration [see also 'scaffolding']. Benefits of this approach are improved intergroup relations, peer-learning, the engagement of student expert knowledge (of particular relevance in advanced methods teaching) and shared accountability for learning.

Further reading:

Dillenbourg P. (1999) What do you mean by collaborative learning? In P. Dillenbourg (Ed) *Collaborative-learning: Cognitive and Computational Approaches* (pp.1-19). Oxford: Elsevier. <https://telearn.archives-ouvertes.fr/hal-00190240/document>

Longmore, M. A. Dunn, D. & Jarboe, G. R. (1996) Learning by Doing: Group Projects in Research Methods Classes, *Teaching Sociology*, 24(1), 84-91. https://libres.uncg.edu/ir/uncg/f/D_Dunn_Learning_1996.pdf

Experiential Learning

Experiential learning is about providing students with first-hand experience of conducting research in authentic and real world contexts, or using authentic empirical data as part of solving a real research problem². Some advocates of experiential learning argue research methods cannot be taught in the abstract and that experience is paramount. This is because of the value the tacit, sensory or embodied knowledge that experiences of doing research can evoke. Facilitating experiential learning can be challenging as it frequently engages emotions and feelings, it poses challenges in formal education contexts and can also risk exposing students to negative experiences – and outcomes. For this reason, activities that simulate and relate to real world encounters in research, can offer a mediated way to gain necessary experience.

Further reading:

Kolb, D. A. (2014) *Experiential Learning: Experience as the Source of Learning and Development*. Pearson FT Press.

Aguado, A. (2009) Teaching research methods: learning by doing. *Journal of Public Affairs Education*, 15 (2), 251–260. <https://www.jstor.org/stable/40215853>

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Modelling

Modelling refers to the teaching strategy of *showing how it's done*. Modelling has two aspects, first showing what an end point might look like, or second (with greater relevance to methods teachers) modelling the process of reaching those outcomes. For teachers seeking to convey a methodological logic (e.g. in experimental methods) modelling might be deployed by demonstrating a technique and then requiring learners to practice it or describing the (expert) decision making used to address a complex methodological problem. Modelling can make often tacit and obscure methodological processes accessible to students. Tactics for modelling include the use of worked examples, decision flows and the use of think aloud during walk-through and demonstrations.

Further reading:

Loughran, J. & Berry, A. (2005) Modelling by teacher educators. *Teaching & Teacher Education*, 21(2), 193-203. <https://doi.org/10.1016/j.tate.2004.12.005>

Smith, A. & Martinez-Moyano, I. (2012) Techniques in teaching statistics: linking research production and research use, *Journal of Public Affairs Education*, 18 (1), 107–136.

Scaffolding

Scaffolding comes from the learning theories of Vygotsky and Bruner. It refers to a support strategy for a learning process, this support means that students can achieve more than they could alone. Scaffolding theory identifies three essential facets. It requires collaboration between the learner and more knowledgeable peer or teacher, it requires a knowledge of the learner's current level of knowledge so that knowledge can be extended, and it anticipates that support is gradually removed as students develop autonomous learning strategies or gain proficiency. Tactics for scaffolding include questioning and modelling, activities that gauge where students are at, build difficulty incrementally, supplying props (i.e. examples, data, templates, metaphors) that students can work from initially, or using teachable-moments to help students transition to new levels of insight.

Further reading:

Pea, R.D. (2004). The social and technological dimensions of scaffolding and related theoretical concepts for learning, education, and human activity. *Journal of the Learning Sciences*, 13, 423–451. https://doi.org/10.1207/s15327809jls1303_6

Fisher, S. & Justwan, F. (2018) Scaffolding Assignments and Activities for Undergraduate Research Methods, *Journal of Political Science Education*, 14(1), 63-71. <https://doi.org/10.1080/15512169.2017.1367301>

Student-Centred Learning

Student-centred Learning approaches are frequently used in methods teaching, to meet the challenge of student diversity, to motivate students and to draw on prior experience. The emphasis is on the student's role in actively engaging in learning and constructing meaning for themselves based on prior experiences and focused on their interests. It emphasises deep learning and increases the responsibility, autonomy and accountability of the student. The starting points for this approach are the experiences, interests and needs of the people learning the research methods – individuals and their peers. To this end, 'getting to know you' exercises, the use of Q&A, experience-dipping, polls and so forth offer starting points. From there educators can engage the diversity of a group and build from their students' requirements.

Further reading:

O'Neill, G. & McMahon, T. (2005) *Student-centred learning: What does it mean for students and lecturers*. In: Emerging issues in the practice of university learning and teaching. Dublin: AISHE.

Barraket, J. (2005), Teaching Research Method Using a Student-Centred Approach? Critical Reflections on Practice, *Journal of University Teaching & Learning Practice*, 2(2), 62-74. <http://ro.uow.edu.au/jutlp/vol2/iss2/3>.

Keenan, K. and Fontaine, D. (2012) Listening to our students: understanding how they learn research methods in geography, *Journal of Geography*, 111 (6), 224–235. <https://doi.org/10.1080/00221341.2011.653651>

References

1. The Pedagogy of Methodological Learning Study <http://pedagogy.ncrm.ac.uk>
2. Kilburn, D., Nind, M. & Wiles, R. (2014). Learning as researchers and teachers. The development of a pedagogic culture for social science research methods. *International Journal of Social Research Methodology*. 18 (5), 455-461. <https://doi.org/10.1080/13645579.2015.1062631>

Further guides in this series are in production as part of current research on the Big Qual Analysis: Innovation in Method and Pedagogy project. Look out for them on the NCRM website. We also appreciate feedback to inform future work.

National Centre for Research Methods
Social Sciences
University of Southampton
Southampton, SO17 1BJ
United Kingdom.

Web <http://www.ncrm.ac.uk>
Email info@ncrm.ac.uk
Tel +44 23 8059 4539
Twitter @NCRMUK