

Impact of Scholarship of Teaching and Learning

Executive summary

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Executive summary

Established in 1969, The Open University (OU)¹ is a global leader in higher education. The OU has pioneered distance learning and has delivered exceptional teaching and outstanding support to students in the UK and across the world through its own unique method of ‘supported open learning’². Personal tutors provide academic expertise, guidance and feedback to students who fit their education alongside jobs, families, and other commitments.

The Scholarship of Teaching and Learning or SoTL is central to the OU’s innovative pedagogical practice and integration of emerging technologies in learning, teaching, and assessment³. SoTL involves conducting a focused, systematic investigation or inquiry into a well-defined aspect of academic practice, with the aim of improving learning and teaching. One or more research questions guide the way the research is designed and conducted in a SoTL project. For example, investigating whether and how a technology such as a wiki can support collaborative learning on a software engineering module and provide skills to students to collaborate in distributed workplace environments.

SoTL is often carried out by ‘educators’; for example, a project team may include academics (of one or more disciplines), learning designers, educational researchers, librarians, career and employability advisors, and students⁴.

The systematic and rigorous investigation of learning and teaching through SoTL is a critical prerequisite to respond to the major challenges facing higher education (HE). There is a fundamental link between learning and teaching and key educational imperatives and challenges in HE such as employability, internationalisation, innovation, equality of opportunity, widening participation, academic excellence, and student success. Hence, the value and impact of SoTL is not just on learning and teaching enhancement, but on all these aspects of student success and experience within the institution and beyond.

The impact of a SoTL project refers to the demonstrable benefits to learning and teaching that are directly attributable to that project. Generating impact is integral to SoTL practice as SoTL is oriented towards improving academic practice and student experience.

The impact of a SoTL inquiry can be one or more of these aspects:

- improvement in student experience;
- contribution to teaching strategies in a discipline or subject area;
- application of the outcomes of a SoTL inquiry in other disciplines and contexts;
- changes in institutional processes and policies;

1 The Open University, <https://www.open.ac.uk/>

2 Teaching and Research, About The Open University, <https://www.open.ac.uk/about/main/teaching-and-research>

3 Scholarship at The Open University, <https://www.open.ac.uk/scholarship-and-innovation/esteem/working-with-us/scholarship-open-university>

4 ‘Students as partners in SoTL’, in ‘Scholarship of Teaching and Learning in STEM’, Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109324§ion=1>

- higher quality of learning and teaching at the institutional, national or international level;
- strengthening student-staff collaborations through student partnership;
- building or strengthening SoTL practitioner’s reflective practice; and
- professional development and career progression of the SoTL practitioners.

To determine whether a SoTL project has had an impact and what that impact is, appropriate evidence needs to be collected. An evaluation of impact involves investigating the nature of the impact and the evidence for that impact. For example, the impact evaluation of the ‘wiki’ SoTL inquiry found that students reported peer-to-peer learning through collaboration, greater understanding of the module concepts, and the development of collaborative working skills that they were applying in their workplaces⁵.

It is important that the knowledge generated via SoTL is shared within the institution and with external colleagues, so that the project’s outcomes can be peer-reviewed and taken up by other educators, which help them improve their own teaching practices⁶. Encouraged by the outcomes of the ‘wiki’ SoTL inquiry involving software engineering students, the OU Business School adopted the use of a wiki in one of their modules to enable the students to work collaboratively when analysing business cases⁷.

About the impact evaluation initiative

The impact evaluation initiative has involved conducting impact evaluation and subsequent analyses of 16 SoTL projects in the OU’s Faculty of STEM⁸, 15 of which were funded and supported by eSTEEem⁹, the OU Centre for STEM pedagogy, and one was supported by the School of Mathematics and Statistics. The 16 projects, documented as case studies, focus on the impact of SoTL – what has changed as a result of each of these SoTL projects.

The impact evaluation (IE) initiative has two key deliverables:

1. A compendium of 16 case studies¹⁰.
2. A guide for educators¹¹.

5 Minocha, S., Petre, M. and Roberts, D. (2008). Using wikis to simulate distributed requirements development in a software engineering course. *International Journal of Engineering Education*, vol. 24, no. 4, pp. 689-704.

6 ‘Making SoTL public’, in ‘Scholarship of Teaching and Learning in STEM’, Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109326§ion=1>

7 Thomas, P., King, D. and Minocha, S. (2009). The effective use of a simple wiki to support collaborative learning activities. *Computer Science Education*, vol. 19, no. 4, pp. 293-313.

8 Faculty of STEM, The Open University, <https://stem.open.ac.uk/>

9 eSTEEem, The OU Centre for STEM pedagogy, <https://www.open.ac.uk/scholarship-and-innovation/esteem/>

10 Minocha, Shailey and Collins, Trevor (2023). *Impact of Scholarship of Teaching and Learning: A compendium of case studies*. The Open University, Milton Keynes, UK. DOI: <https://doi.org/10.21954/ou.ro.000155c0>

11 Minocha, Shailey and Collins, Trevor (2023). *Impact of Scholarship of Teaching and Learning: A guide for educators*. The Open University, Milton Keynes, UK. DOI: <https://doi.org/10.21954/ou.ro.000155c1>

A compendium of case studies

A case study methodology has been employed to generate an in-depth understanding of the impact of each of the 16 SoTL projects and to present the impact of these SoTL projects as case studies in the compendium.

The seven pedagogical themes underpinning the selected SoTL projects showcased in the compendium are: accessibility, assessment, authentic experimental and practical learning, building digital skills, projects that have made an impact on the way a discipline is taught, supporting the student journey, and students as partners.

Each impact case study discusses the context and aim of the SoTL inquiry, the underpinning research, the findings, details of the impact, and reflections on SoTL practice (guided by the principles of SoTL¹²). Each case study ends with a quote from the project team, which captures their reflections on the project and its impact. The project resources including end-of-project reports, videos, papers, presentations and posters, and references to the literature are listed at the end of each case study.

The impact narrative for each of the projects has been developed by the authors of the compendium in association with the SoTL project team who conducted a self-evaluation of the impact of their project by applying the Impact Evaluation Framework (IEF)¹³. The IEF has been developed and evaluated in the OU's Faculty of STEM based on literature review and empirical investigations. The IEF is being shared as an impact evaluation instrument for SoTL with the community (under Creative Commons licence: CC BY-NC-SA 4.0¹⁴).

The case studies and reflections on SoTL practice in each of these SoTL projects demonstrate the role of SoTL and its impact on educator's academic and research practice, student learning, curriculum, assessment strategies, student support and on the teaching of individual disciplines. Further, the case studies show that SoTL practice affords opportunities for: increasing student involvement in SoTL over a continuum as research participants, co-designers of a SoTL inquiry, co-researchers in SoTL inquiry; and engaging students as co-designers of curriculum and assessment in response to the outputs of a SoTL inquiry.

It is hoped that the evidence-based learning and teaching strategies and innovations encapsulated in each of these case studies may help educators adopt the outcomes of SoTL projects in their own contexts. Further, the case studies may inspire educators to practise SoTL. The discussion on SoTL, its possible impact, and the compendium of impact case studies may motivate educators to make SoTL core to their professional roles.

12 'Principles of SoTL', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=109160§ion=2>

13 'Evaluating for impact', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109326§ion=2.3>

14 Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0), <https://creativecommons.org/licenses/by-nc-sa/4.0/>

We hope that the discussion on impact of SoTL may help colleagues to plan for impact when they are designing a SoTL inquiry and applying for funding. The IEF can serve as a useful resource to think of the various types of impact a SoTL project could have.

Impact in SoTL is a complex phenomenon. As the compendium of case studies has shown, different initiatives can result in different forms of impact. There are also disciplinary and institutional contexts that may determine how the impact is perceived and communicated. Therefore, the IEF (**Figure 1**) and the compendium's case study template can be adapted to suit impact evaluation and the communication of impact in different situations.

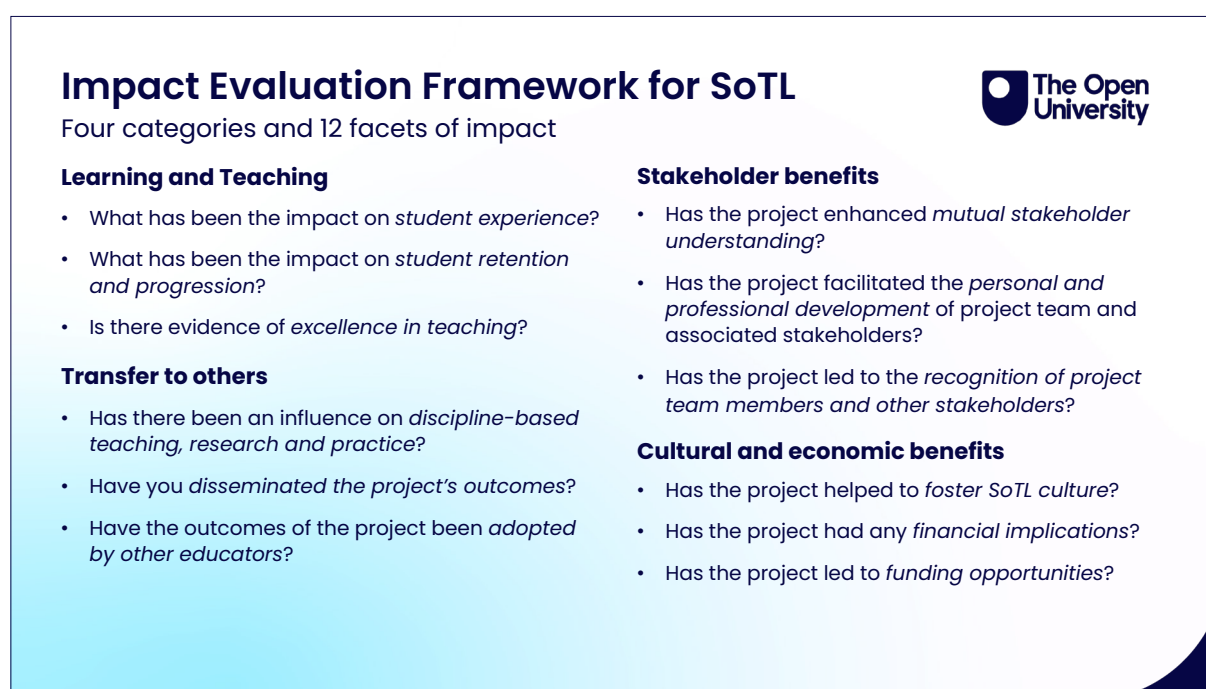


Figure 1 Impact Evaluation Framework for SoTL

A guide for educators

The impact evaluation of the 16 SoTL projects and subsequent analyses and literature review has resulted in several outputs that are captured in the 'guide'. The guide includes:

- the identification of key enablers and strategies for the generation of impact;
- an understanding of eSTeEM's role in supporting SoTL in STEM at the OU;
- a toolkit for planning, generating, monitoring and communicating impact from SoTL; and
- a list of challenges to generating impact of SoTL.

In the guide, we discuss the suitability and role of the IEF for conducting the impact evaluation compared to some of the other frameworks available in the literature, such as the 4M framework¹⁵ and the IMPEL model¹⁶. The 12 impact criteria and their attributes in the IEF have provided a rubric for the impact evaluation of SoTL projects and development of the corresponding case study narratives in the compendium.

The case study methodology and analysis of individual case studies has led to the examination of factors that enable the generation of impact from SoTL. eSTeEM's support infrastructure of funding, project management, professional development, and community¹⁷, and its role in broadening the recognition of SoTL within the STEM faculty, across the OU, and externally has been one of the key enablers for SoTL's impact reported in the compendium.

Some of the other strategies for the generation of impact include: planning for impact from the beginning of a SoTL inquiry; situating the SoTL project within the strategic priorities of the school, faculty or institution; adhering to the principles of SoTL¹⁸ as heuristics to guide the design, development and evaluation of a SoTL inquiry for impact; conducting collaborative SoTL involving educators with complementary skills and disciplinary interests; involving students as partners; sharing emerging findings; disseminating strategically for possible uptake of the project's outcomes; and using social media to create a community around the SoTL inquiry.

Along with the guide, we have developed two resources¹⁹ as 'workbooks' which the SoTL community may find useful.

- The '**Planning for SoTL impact workbook**' has been designed around the 'Theory of Change'²⁰ to guide the educator to systematically plan a SoTL project for possible impact. Once a project has been formulated, this workbook can act as a tool for project management, for engaging stakeholders, and for monitoring the impact of the SoTL inquiry.
- The '**SoTL impact evaluation workbook**' is designed around the IEF. This workbook can be used by educators for planning, reflecting on, monitoring, and evaluating impact of a SoTL inquiry, and recording the evidence of impact.

15 Simmons, N. (2020). The 4M framework as analytic lens for SoTL's impact: A study of seven scholars. *Teaching & Learning Inquiry*, vol. 8, no. 1.

16 The Impact Management Planning and Evaluation Ladder (IMPEL), <https://www.education.gov.au/learning-and-teaching/resources/impact-management-planning-and-evaluation-ladder-impel> or <https://tinyurl.com/2p9f75kx>

17 'Supporting SoTL through communities', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109159§ion=4>

18 'Principles of SoTL', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=109160§ion=2>

19 The two supplementary resources are available along with the guide at: Minocha, Shailey and Collins, Trevor (2023). *Impact of Scholarship of Teaching and Learning: A guide for educators*. The Open University, Milton Keynes, UK, <https://doi.org/10.21954/ou.ro.000155c1>

20 Centre for Theory of Change, <https://www.theoryofchange.org/what-is-theory-of-change/>

In the guide, these two workbooks along with other resources are brought together in the form of a **'Toolkit for SoTL impact'**, which may help SoTL researchers to design, plan, conduct and report impact of their SoTL projects. The 'toolkit' can also be used for the professional development of educators for designing SoTL inquiries for possible impact.

We recognise that that it is increasingly challenging for educators to engage with SoTL. The HE sector is in a state of flux. Educators have been dealing with a constant stream of uncertainties and unpredictable problems in delivery and assessment – more so since the COVID-19 pandemic. Consequently, finding time to engage in SoTL, conducting it in hybrid settings, and involving students in SoTL projects are some of the challenges that educators are facing in conducting SoTL.

Other barriers to SoTL practice include institutional challenges such as absence of recognition for SoTL practice, lack of encouragement or incentive for conducting SoTL, and lack of funding to support the research process and dissemination of a SoTL inquiry.

Further, educators may not be trained or skilled in setting up a SoTL inquiry on their own. To facilitate the uptake of SoTL by educators, the OU's STEM Faculty has developed a free Badged Open Course (BOC)²¹ on OpenLearn (the OU's free learning platform). The BOC provides a systematic process and resources for conducting SoTL, which may help colleagues gain the knowledge, skills, and confidence to plan and conduct a SoTL inquiry. Although it draws on examples from STEM projects, the course has been designed for colleagues from all disciplines who are interested in integrating SoTL in their academic practice; gaining professional recognition such as Advance HE Fellowships²²; and for career progression (particularly, those on teaching-only contracts).

Even if educators are able to engage with SoTL, they may face several challenges to generating and sustaining impact. One of these challenges is the time-constraints of educators with high workloads to engage in activities that help generate and sustain impact such as dissemination, impact evaluation, collection of evidence of impact, analysis of the evidence and reporting impact. Another challenge is not having the funds and resources to track and collect evidence of the impact of a SoTL inquiry. Educators often move to other projects, or take up additional teaching responsibilities, or their roles may change such as moving to managerial positions, which may affect their dissemination efforts on the completed SoTL projects, and, hence, constrain the impact that can be generated.

In our experience, providing institutional support to SoTL scholars in the form of funding, time (through workload management), and professional development and training (just as eSTEEeM does) fosters a culture of SoTL and facilitates its impact. Increased institutional recognition of SoTL, supporting educators in SoTL projects from inception to dissemination, and to collecting evidence of impact motivates educators to engage in impactful SoTL. Developing a positive institutional SoTL culture, which is participatory, collaborative, and co-productive, will mobilise collaborative SoTL²³ and pan-university efforts to tackle the emerging

21 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.ac.uk/scholarship-of-learning-and-teaching-in-STEM>

22 Advance HE fellowships, <https://www.advance-he.ac.uk/fellowship/fellowship>

23 'Collaboration in SoTL', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109159§ion=2>

challenges of learning and teaching in a dynamic and ever-changing HE environment.

There is, however, a concern that the increasing quest for impact at institution level in HE and integration of impact in the narratives of accountability and performance measurement could be counter-productive to SoTL, just as the metric-driven impact agenda in research is adversely affecting the research culture²⁴. A focus on metric-driven impact assessment of SoTL may restrict the creativity and innovation of educators and limit the scope of individual inquiries which, ultimately, would negatively affect an educator's reflective practice and student experience. Hence, the drive towards metric-driven impact evaluation should be approached with caution and care²⁵.

Conclusions

Engagement with SoTL can be transformative and results in a clearer understanding of evidence-based academic practice and student learning, which lead to better student outcomes. Furthermore, the research skills gained through SoTL practice can support disciplinary-based research and research in other contexts.

It is vital that HE institutions value SoTL on an equal footing as disciplinary research. SoTL needs to be embedded within educators' roles to ensure that SoTL research informs pedagogical and curriculum changes. Continued leadership and commitment for SoTL at departmental and institutional levels, and also from disciplinary societies, funders, and governing and accreditation bodies will further sustain and grow SoTL's impact²⁶.

As SoTL matures and the scope of SoTL projects grows, impact evaluations across programmes of work will further reveal causations between SoTL inquiries, institutional impact and higher education's quality metrics at a national level and beyond.

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24 Reed, M. S. and Fazey, I. (2021). Impact Culture: Transforming How Universities Tackle Twenty First Century Challenges, *Frontiers in Sustainability*, vol. 2, article 662296.

25 'Measuring impact', in 'Scholarship of Teaching and Learning in STEM', Badged Open Course (BOC), The Open University, <https://www.open.edu/openlearn/mod/oucontent/view.php?id=109326§ion=2.7>

26 How, Z. J. (2020). A Systematic Review of Scholarship of Teaching and Learning Research in Higher Education Institutes from 2014-2019 in S. C. Tan and SH. A. Chen (eds.), *Transforming Teaching and Learning in Higher Education*, Springer.

