

Evidencing the Impact of Institutional Scholarship: A Tried and Tested Approach

Elizabeth FitzGerald

The Open University

Jane Wilson

The Open University

Julia Sargent

The Open University

Carina Bossu

The Open University

Caroline Elkins

The Open University

Abstract

The UK's Open University has a vision for a university-wide unified approach to scholarship of teaching and learning, otherwise known as SoTL, intended to create broader knowledge and an evidence base to increase excellence in teaching and learning. A large number of scholarship projects and activities occur throughout the university, enabled through the presence of scholarship centres. However, there is a paucity of published work across the sector to assess the impact of scholarship activities (particularly in reference to SoTL), especially when these are conducted on an institution-wide scale. We seek to address this issue, with particular reference to the LATIS scholarship centre. University staff have been involved in a number of LATIS projects and in a number of scholarship projects conducted prior to the formal launch of LATIS. Using the new Impact Levels (IL) model and Spheres of Influence (SoI) model, we examine the work of these scholarship projects, looking at different levels of impact and how these can be evidenced. We conclude in recommending the adoption of existing frameworks (such as the UK's REF and TEF), and also consider new ways of assessing impact (using the Spheres of Influence model) that can have relevance to both institutional priorities and wider stakeholders.

Keywords

impact; Scholarship of Teaching and Learning (SoTL); evidence; institutional scholarship; national frameworks

Introduction

The concept of 'impact' is gaining greater traction and visibility in many universities across the world today (Mitchell, 2019). Impact can mean many things to many people:

research impact; teaching impact; the impact of student registrations, completions and retention; the impact of government policies and funder regimes (Jones et al., 2017).

Impact in universities across the world is often evidenced in performance-based research funding systems (PRFS) (Sivertsen, 2017; Sivertsen, 2018). Many European countries use indicators of institutional performance (or ‘metrics’) for decisions about funding, although in the UK, the Research Excellence Framework (REF) is used, where panel evaluation and peer review result in both research evaluation and subsequent allocation of funding. Pressure from stakeholders lead to growing demands of audits and evaluations of public spending and the impact of such work, and it is clear that quantitative data alone cannot provide the information needed (Doyle, 2018; Wilsdon et al., 2015).

In addition to the REF, there is also the Teaching Excellence and Student Outcomes Framework (TEF), seeking to benchmark the UK sector for the quality of its teaching, and the Knowledge Exchange Framework (KEF), aimed at the evaluation of universities’ knowledge exchange. The broad aim of these exercises is to enable comparisons in what is a very diverse sector. However, these metrics can also have critical implications not only in respect of funding decisions, but also in enhancing international standing and reputation, with the benefits those bring (e.g. recruitment of the best students and staff; desirability for collaborations etc.) (Bishop, 2016).

With tuition fee increases at UK universities in recent years, and the addition of TEF metrics alongside National Student Survey findings, it is clear that students are keen to obtain value for money in their studies. Improving teaching and learning is one way to do this (Neves & Hillman, 2019). Many universities have been engaging their staff in projects to do just this, however, there has been very little published as to how to measure the impact of these projects and few frameworks available to guide stakeholders to do so. Gauging improvements to teaching and learning is difficult at best and, for many, falls in the gap between teaching and research. It can be very hard establishing a direct causal relationship between particular initiatives and improvements in student retention/progression/satisfaction rates. The TEF certainly does not serve this function in any meaningful way (O’Leary, 2019). However, work has been done to examine the non-economic measurement of research impact (Mitchell, 2019) and, more recently, how outcomes from scholarship projects can be assessed against 12 different criteria (Minocha, 2021).

In this paper, we present a case study to assess the impact of scholarship projects at a UK university. We report on the use of two models for assessing both internal and external impact, resulting in recommendations for the sector. We not only generate new knowledge but make a wider contribution to the sector in the matter of laying the foundations for a potential ‘Scholarship Excellence Framework’, which could be a powerful new tool in further assessing institutional capabilities and performance.

Exploring Institutional Scholarship

Defining Scholarship

Scholarship is a term that can convey a number of different meanings and can even have negative connotations (Boshier, 2009; Hutchings et al., 2011; Vithal, 2018). It can be seen as a poor cousin to research and considered less worthwhile, as it does not attract funding in the same way as research does. There can be tensions too between disciplines as

scholarship can be seen as a way in which educationalists might intrude on subject specialists, or even vice versa (Hutchings et al., 2011). Hence it is essential to first discuss what we mean by scholarship.

Boyer's model of scholarship (Boyer et al., 2015) proposed 4 elements: the scholarship of **discovery** (analogous to disciplinary-based research); the scholarship of **integration** (involving coordination, interpretation and synthesis of knowledge); the scholarship of **application** (or engagement/application to practice of disciplinary expertise) and the scholarship of **teaching**. This latter category, more commonly referred to as the scholarship of teaching and learning (SoTL), embodies research into learning and teaching with the aim of improving its quality and related student outcomes (Elton, 1992). However, Boyer's (2009) definition is not without criticism (Boshier, 2009) and so we also look to Potter and Kustra (2011)'s definition of scholarship as

the systematic study of teaching and learning, using established or validated criteria of scholarship, to understand how teaching (beliefs, behaviours, attitudes, and values) can maximize learning, and/or develop a more accurate understanding of learning, resulting in products that are publicly shared for critique and use by an appropriate community.

Essentially, scholarship includes theoretical and empirical evidence of pedagogical subject knowledge, and teaching approaches, relating to how students learn. It is the focus of the work presented here and is what we refer to henceforth when we mention 'scholarship.'

Scholarship at The Open University

The Open University (OU) in the UK is one of the biggest distance-learning universities in the world, with nearly 175 000 students (The Open University, 2020). In 2017, a decision was made to increase institutional scholarship activities, in order to create broader knowledge and an evidence base to improve teaching and learning. As a result, the OU's Scholarship Plan 2018-2023 was established, in parallel to the creation of new centres of scholarship and innovation (hereafter referred to as scholarship centres). eSTEEeM (the STEM faculty scholarship centre), established in 2010, was used as the basis for the other centres that were established later: PRAXIS (in the Faculty of Wellbeing, Education and Language Studies); FASSTEST (Faculty of Arts and Social Sciences); SCiLAB (Faculty of Business and Law) and LATIS (the scholarship centre for the Learning and Teaching Innovation [LTI] portfolio, comprised of academics and academic-related staff in the Institute of Educational Technology (IET), the Library, Open Media; Learning Design, and several related units).

The scholarship centres provide:

- funding and direct support for SoTL projects;
- advice and help with developing relevant skills to set up, run and link up SoTL projects, find additional sources of support and facilitate collaborations;
- equipment;
- SoTL events, e.g. conferences, workshops and writing retreats;
- information about activities of SoTL, including staff development networks; and
- help with disseminating scholarship project findings, including support with conference attendance/presentations and publications, and links into policy.

Each Centre has a Centre Director, Centre Manager and an Advisory Group that reports to senior management. Coordination between centres is facilitated by a university-wide Scholarship Steering Group, which supports priority setting, implementation of the institutional Scholarship Plan and the sharing of good practice across different faculties.

In total, the Centres supported 128 SoTL projects in 2018/19. Project themes encompassed accessibility, inclusion, assessment, learning design, group activities, automated marking, motivation/expectations of students, student support, online and blended tuition patterns and pedagogical issues such as addressing tutor/student misconceptions.

As part of the evaluation of these activities, we examined the impact of SoTL projects, with particular reference to LATIS as a case study. A major benefit of choosing LATIS for this study is that many of its activities sat outside the university's faculty structures, therefore LATIS projects often spanned across many areas of provision with the potential to benefit our students more widely. As such, by focusing on this case, we are able to draw upon findings that may be relevant across faculties and disciplines.

Exploring Definitions and Evidence of Impact

What is Impact and Why is It So Important?

In 'The Research Impact Handbook', Reed defines research impact as "*the good that researchers can do in the world*" (Reed, 2018, preface). He distinguishes between five different types of impact (Reed, 2016):

1. Instrumental (leading to changes in practice/policy)
2. Conceptual (understanding/awareness raising)
3. Capacity-building (increasing skills of colleagues/others)
4. Attitudinal or cultural (change in attitudes/behaviour)
5. Enduring connectivity (building/establishing partnerships).

Reed later expanded these to ten different types (Reed, 2018), but as the Scholarship Steering Group and the scholarship centres work with the above 5 different types of impact in their reporting systems, we will focus upon these.

These benefits will be recognisable to many of us regarding the outputs of our activities. We will now look at how impact is formalised through national (UK) frameworks.

National Frameworks to Assess Impact

Impact itself is a highly contested term. In the UK, three national frameworks exist that have attempted to reference impact with respect to activities conducted in UK higher education institutions (HEIs). These are the REF, the TEF and the KEF.

The Research Excellence Framework (or REF) is the process by which the quality of research in HEIs is assessed. The impact of this research is worth 25% in the REF2021 exercise, with impact defined as "*an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia*" (UKRI, 2020). The remaining aspects of quality relate to research outputs (worth 60%) and environment (15%).

Impact is assessed through Impact Case Studies, which look at two factors: reach and significance. Reach is defined as “*the extent and/or diversity of the beneficiaries of the impact, as relevant to the nature of the impact*” (REF2021, 2019, p.52) – this is not geographically defined or limited, nor is it assessed by specific numbers of stakeholders that engaged with the work. Significance relates to “*the degree to which the impact has enabled, enriched, influenced, informed or changed the performance, policies, practices, products, services, understanding, awareness or wellbeing of the beneficiaries*” (REF2021, 2019, p.52).

The Teaching Excellence and Student Outcomes Framework (TEF) was introduced by the UK government to assess the quality of undergraduate teaching in universities and colleges in England, and some universities in Wales and Scotland. It helps inform prospective students where to study and brings teaching quality into line with judgements made regarding research quality via the REF. Individual HEIs are classed as bronze, silver or gold, with this TEF classification determined by seven core metrics based on teaching quality, learning and progression to graduate-level employment or further study (Hall, 2017).

The TEF states that “*wherever possible, impact should be demonstrated empirically*” (Department for Education, 2017). Indeed, the TEF specification report mentions impact several times when giving examples of evidence e.g. impact and effectiveness of:

- feedback initiatives;
- involving students in teaching evaluation; and
- schemes focused on monitoring and maximising students’ engagement with their studies.

SoTL is also mentioned explicitly in the TEF specification, as one of the sub-categories of ‘Learning Environment’ (one of the Assessment Criteria). A criterion is stated under ‘Scholarship, Research and Professional Practice (LE2)’, as follows: “*The learning environment is enriched by student exposure to and involvement in provision at the forefront of scholarship, research and/or professional practice*” (Department for Education, 2017, p.25).

Clearly the outputs of SoTL activities can be evidenced through, and are critical to, both the REF and the TEF.

Finally, the KEF (Knowledge Exchange Framework) is designed to inform and assess knowledge exchange in universities and to assess their performance in respect of commercialisation and collaboration with industry (HM Government, 2017). Whilst some have argued that the KEF has substantial overlap with the REF with regard to how this evidences impact, the KEF is targeted more towards helping institutions identify where they might improve. It can also be used by businesses to enable better access to universities (Hill & McAlpine, 2019).

The KEF is based largely on quantitative data, with metrics often resulting from income derived from knowledge exchange (KE) activities, contract research or industry collaborations. This is in stark contrast to the primarily peer-reviewed REF submissions, which result in a rich body of knowledge about how research is created, and can be maximised, across a wide range of beneficiaries. However, unlike the REF, the KEF can evidence the smaller success stories in addition to the bigger impacts, that maybe

evidence a ‘trajectory measure’ that might be expected to create some level of impact in the future (Hill & McAlpine, 2019, p.1). This is also what Sivertsen and Meijer (2018, p.1) refer to as ‘normal impact’, as opposed to the ‘big success stories’ showcased in REF impact case studies.

However, these existing TEF, REF and KEF frameworks do not capture the rich diversity of possible impacts and are therefore not always helpful in evaluating the impact of scholarship. Hence, we need to explore further how this might be done for SoTL activities.

Theoretical Framing

Measuring impact is a crucial task and it can be evidenced in SoTL in several different ways. Therefore, it is critical to understand the theoretical perspectives to this work. Strauss and Corbin (1998), for example, were the first scholars to identify a framework called the ‘conditional matrix’ (sometimes termed ‘consequential matrix’) and henceforth referred to as ‘the matrix’. As a mechanism of grounded theory, they describe the matrix as an analytical aid useful for considering the wide range of conditions and consequences related to phenomena under study (Strauss & Corbin, 1998). The approach has been used in areas such as nursing studies (Fenwick et al., 2012), who used the matrix to analyse what people did in response to a problem or situation such as persistent pain. It has also been used in disciplines such as counselling (Goodrich, 2012) and education (Brown et al., 2002).

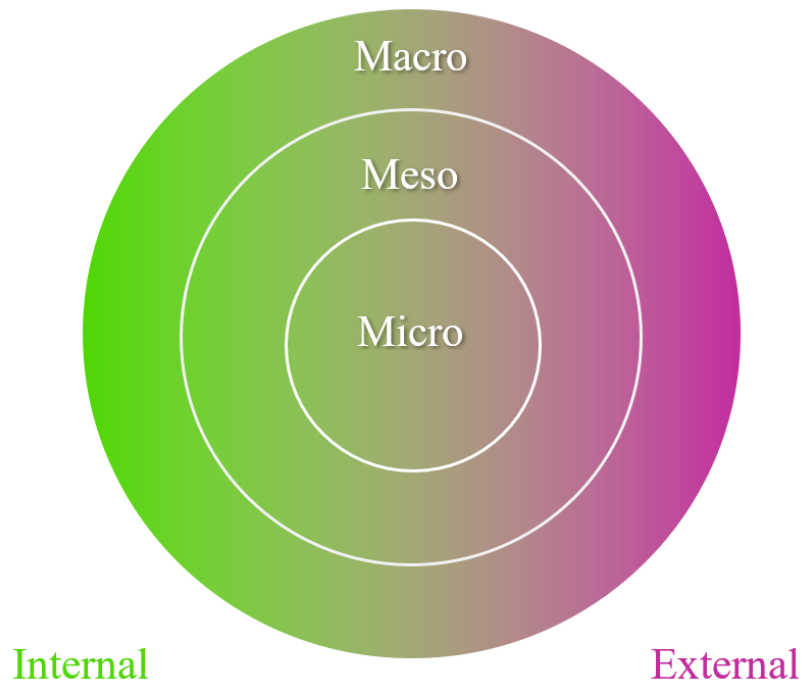
The matrix is commonly represented diagrammatically as a set of circles with each level corresponding to different aspects of the phenomenon (Strauss & Corbin, 1990). The circles furthest away from the centre indicate the macro conditions, leading towards the micro conditions in the centre. However, it is important to note that the distinction between micro and macro can be seen as an artificial one (Strauss & Corbin, 1998). What is important is the relationship between these constructions and the interplay between them.

The benefits of using this framing in our study is that it helps us to be theoretically sensitive to the range of conditions that bear upon both scholarship work and its management. Furthermore, it enables us to be aware of the range of potential consequences that result from action/interaction (Strauss & Corbin, 1990) in relation to scholarship. It is a systematic approach to relate conditions, actions/interactions and consequences to a phenomenon. Thus, it provides a potential pathway to identifying the different levels of impact.

From this theoretical framing and the aforementioned national frameworks, we can consider the different levels at which impact from SoTL can occur: macro, meso and micro (also seen in e.g. Shreeve, 2011), which apply both internally and externally to a university. We can visualise this through the diagram shown in Figure 1, what we refer to as the Impact Levels (IL) model, which is a new framework that we have developed to help measuring impact of SoTL. The gradient between the left and right sides represents how this impact can dovetail between internal and external contexts, and where considerable overlap can exist.

Figure 1

The New Impact Levels (IL) Model



The Impact Levels Model Evidenced Through Scholarship

This new Impact Levels model attempts to recognise the complexity of how SoTL impact can be assessed, by taking into account both internal and external contexts and also the different levels at which this impact can occur. This parallels the ‘reach’ and ‘significance’ explicit in REF criteria. We now examine these three levels in further detail.

Micro: Impact on Individuals. At the micro level, we are looking at impact(s) related to individual development, such as evidence required for submission for fellowship of the Higher Education Academy (HEA), teaching awards or to support a promotion case (Vardi & Quin, 2011). This links directly to aspects of TEF and KEF, as TEF considers numbers of fellowships as a measure of quality in teaching, and KEF considers the above as Continuing Professional Development (CPD) (Hill & McAlpine, 2019).

Such impact may also result in the development of the individual’s peers, particularly when it affects their professional practice, such as in a module team, or a research collaboration. This may have external impact, although internal impact might be expected to be most common.

There can also be an impact on students and the student experience, which although affects individual students, could also see an increase in satisfaction, retention, and completion rates *en masse*, if enough students were affected.

Meso: Impact on Teams and Faculties. At the meso level, we would expect SoTL impacts to link to unit business plans and objectives (including Equality, Diversity and Inclusion - EDI), research income targets and other Key Performance Indicators/Critical

Success Factors (KPIs/CSFs). It may also have some impact on local schemes or networks, external to the university, such as collaboration with a particular partner (e.g. industry/charity).

Indeed, scholarship projects can provide pilots/early work as the basis for larger funding proposals and working with different colleagues (internal or external) on SoTL projects can lead to new collaborations. At the OU, key to the meso impact level is also how our SoTL activities link to scholarship centre strategic priorities, which are aligned to institutional priorities.

Macro Level: Impact on Institutional Strategic Priorities and Goals. This level refers to priorities and goals that are relevant to, and set by, the HEI or external organisation. At the OU, there are several priorities that are key to the success of the university, its staff and its students. These include:

- Enabling more students to achieve their study goals (exemplified in 63.6%¹ of all SoTL projects carried at the OU in 2018-2019);
- Enhancing employability and career progression (18.6%);
- Improving and enhancing the learning experience of students (45.8%); and
- Promoting equality, diversity, and inclusion, including reduction of degree awarding gaps (37.3%)

These SoTL projects will inevitably have a positive impact on institutional metrics, policies, and practices, and can ultimately help an institution improve on its performance in REF, TEF and KEF exercises through recognising and acting on particular aspects of learning and teaching.

Externally, we would expect SoTL to impact beneficiaries more widely, both by sharing results of projects with the academic community to further knowledge and practice, and also to inform policymakers and government strategy.

We consider our new Impact Levels model to be a simple and straightforward approach in the first steps to record demonstrated impact. However, one thing missing from this approach is the issue of time: not only *what* occurs, but also *when*. This can be vitally important to capture engagement as well as impact: engagement can be a critical first step to impact (see, for example the Australian Research Council's Engagement and Impact Assessment exercise (Australian Research Council, 2020)) but engagement is not always documented properly. In order to fully evaluate the impact of our work, we also need to consider the timing of different engagements, and to do this, we look to the Spheres of Influence model.

The Spheres of Influence (SoI) Model

The Spheres of Influence (SoI) model was created initially by the eSTeEM scholarship centre at the OU to better understand the conversations and networking that were taking place about SoTL activities between project leaders and stakeholders (both internal and

¹ Note that many projects aligned with more than one institutional priority, hence the total for these figures exceeds 100%.

external to the OU). It is an optional part of their project reporting processes and can be used to log engagement and potentially impact from scholarship projects.

In the model, a proforma is established to capture a snapshot of particular conversations that were most memorable, or to document the networks that colleagues felt were most effective.

There are four aspects to the model: sphere, method, impact, and frequency. Staff are asked to consider these aspects through this proforma:

- Who have you been talking to in the development/dissemination of your work? **(Sphere)**
- How have you been disseminating to them? **(Method)**
- What level of **impact** do you think this has had on their awareness (low) understanding (medium) or practice (high), for example?
- How often do you engage in this type of dissemination? **(Frequency)**

This can be exemplified in a table, as shown below (Table 1).

Table 1

Example Sphere of Influence Proforma

Sphere	Method E.g. conversation, presentation, consultancy, etc.	Impact E.g. low/medium/high	Frequency E.g. often, rarely, twice, etc	Example
Department	<i>E.g. conversation</i>	<i>Low</i>	<i>Often</i>	<i>Conversation about your project with a colleague in the corridor</i>
	<i>E.g. Contributing to programme assessment strategy</i>	<i>High</i>	<i>Once</i>	<i>Implementing changes to a programme assessment strategy based on outcome from your project</i>
Faculty	<i>E.g. Presentation</i>	<i>Medium</i>	<i>Three presentations at faculty level</i>	<i>Presentation about project to Faculty Committee</i>
External international	<i>E.g. Consultant</i>	<i>High</i>	<i>~1 month of the year</i>	<i>Consultant on University business in Nigeria</i>

Evidencing the Impact of Institutional Scholarship (SoTL): A Case Study

We have explored how impact can be defined and exemplified at different levels, and how to map engagement over time. However, how can such evidence be elicited from SoTL projects? There may be clear project outputs, such as external publications (blogs,

journal papers, books, conference papers etc), some of which can be used as evidence for the REF (under the ‘Outputs’ section, worth 60% of the REF2021 exercise). There are internal reports, presentations, posters and displays. There may even be changes in key metrics linked to institutional priorities – through, for example, learning analytics data or student feedback data—although it might be difficult to link precise cause and effect.

Those involved in OU scholarship activities are encouraged to disseminate their project findings both internally and externally and the outputs mentioned above are common to many projects. They represent a level of impact that can be measured, to a certain extent. However, communication between project teams and the scholarship centres is sometimes limited, or impact occurs after the project has ended, so capturing impact effectively can be a challenge. In particular, the timeframe over which impact occurs, as well as the extent, is a vital consideration.

As a result of this, our research question is framed as *‘how can we capture engagement and impact from institutional scholarship projects, both during, and after the end of, the project?’*

We used the LATIS scholarship centre as our case study. To gauge the impact of our SoTL projects, questionnaires were sent out to project leaders from 31 scholarship projects to engage in our survey. Example projects include:

- examining the BME (Black and Minority Ethnic) awarding gap to understand issues in student attainment and retention;
- exploring effective approaches to entry for part-time, distance-learning students;
- evaluating an innovative tool to communicate and reflect on student experiences and participatory analysis of the outcomes; and
- exploring innovative student use of mobile learning.

Copies of the questionnaire can be found at <https://tinyurl.com/latis-survey>. The questionnaire was divided into three sections:

- Section 1 – questions about the project’s impact in a number of different ways, with some questions related to teaching and student success (encompassing the four institutional priorities)
- Section 2 – respondents were asked to complete a Spheres of Influence table
- Section 3 – project dissemination through events and outputs, and if project reports had been deposited on the institutional SoTL online repository (the OU’s Scholarship Exchange).

Sections 1 and 3 from the questionnaire were mapped across to the Impact Levels model. These sections comprised of 8 items, mostly open-ended, and they were mapped as follows² (Table 2):

² Note that some questions were not relevant to the IL mapping tool e.g. asking for name of respondent and project title, hence not all questions are referred to here. Question 9 was the SoI framework and is referred to separately.

Table 2*Mapping of Questionnaire Items to Impact Levels (IL) Model*

	Internal context	External context
Micro level	Q3, Q4, Q5, Q6	Q3, Q5
Meso level	Q3, Q4, Q6, Q7, Q10, Q11	Q3, Q11
Macro level	Q3, Q4, Q7, Q8, Q10, Q11	Q3, Q8

The questionnaire was made available to respondents for a month. Overall, 15 responses were received to the questionnaire, giving a response rate of 48.3%.

Analysis

We adopted a pragmatist view of the qualitative research and therefore adopted the approach of abductive analysis. Abduction is an extension of inductive and deductive approaches which addresses the relationship between data and theory (Brinkmann, 2014). Timmermans and Tavory (2012) argue that abduction emphasises rather than sets aside preconceived theoretical ideas during the research project. Furthermore, it is argued that the methodological precepts of grounded theory can stimulate abductive reasoning through a process of getting close to the data, writing memos and differing levels of coding. In light of this abductive approach, the following analytical steps were followed.

Firstly, the data was read several times and initially coded by Author 1. These codes were captured in a table and analytical notes/memos captured. They were then discussed between the authors to clarify meaning and understanding. The second round of analytical coding involved considering the codes in relation to the Spheres of Influence and Impact Levels models as a means to ground theory within the data. Themes were then constructed from the two rounds of coding and presented in the findings section that follows.

Findings

Firstly, we consider the responses to the questionnaire from the perspective of the Impact Levels model, before considering what findings were generated from the Spheres of Influence framework.

Evidence From The IL Model

Micro Level Findings. We start reporting on the analysis by looking at the micro level, which looks at the impact upon individuals. In the **internal** context, respondent commonly report the following impacts:

- having conversations with students to inform them of the work;
- informing PGR (postgraduate research student) training;
- sustaining or developing skills and knowledge, for others or myself (leading to increased student success);
- increased personal confidence or standing;
- developed understanding or knowledge of SOTL, and
- identified shared interest between themselves and other colleagues.

The ‘increased personal confidence or standing’ was also the main factor mentioned as being important in connection with the **external** context, which highlights how engaging in SoTL can help develop university staff with their external professional presence.

Meso Level Findings. At the meso (team/faculty) level, respondents conveyed the following themes in the **internal** context:

- demonstrating engagement with library resources;
- conversations with module chairs, thus informing module content, and also conversations at a unit or school level (e.g. committees);
- an internal follow-on project resulting from this work;
- an internal report produced and disseminated;
- insights provided to guide future practice, and
- benefits to other students, beyond just those involved in that specific project.

From an **external** perspective, respondents reported impact through external teaching or training, and contributing findings of the projects to existing small networks or communities.

Macro Level Findings. Finally, from the macro level looking at institutional or organisational impact, a large number of **internal** benefits were reported:

- several key benefits to potentially all students included greater awareness or upskilling of digital capabilities and improved learning design to inform module production and delivery. Also mentioned were improvements for students in the area of EDI (Equality, Diversity and Inclusion) and better support for new students;
- outputs affecting institutional strategies that led to increased student success, student performance, student progression and informed the understanding or direction of OU employability strategy;
- significant new internal investment or internal awards (nominated for or awarded);
- changes to practice and creation/implementation of new policies, whilst some practices moved across to become business as usual (BAU).

External measures of impact included:

- publications and conference presentations, particularly keynotes;
- external reports;
- new external collaborations and funding;
- external awards (nominated for or awarded); and
- provision of expert advice/external consultation and showing alignment with the sector on key national issues.

These internal and external impacts all resulted directly from these SoTL projects, showing that not only engagement, but also impact, can be very high and at a corresponding level to that of ‘pure research’, or the scholarship of discovery (Boyer et al., 2015).

Evidence From The SoI Model

An alternative way to capture engagement and impact was through the Spheres of Influence model. As well as detailing events at micro/meso/macro levels, it also captures the number and frequency of such events. Additionally, it asks respondents to rate their events as low, medium or high impact, so this can be captured to a more granular level than the Impact Levels framework, which notes impact in general.

From our respondents' replies to the Spheres of Influence model (Q9 on our survey), we captured similar information from that found in the Impact Levels questions, as regards what outputs resulted from these projects.

However, the additional headings gave extra detail with reference to the frequency, number of times these events had occurred and also allowed for specific examples to illustrate these cases. We used six categories of 'Sphere':

1. Unit/school
2. Faculty
3. Other faculty/department
4. Senior university management
5. External national
6. External international

These categories represent the group that the project members would report to. The table below (Table 3) shows all the responses from 15 projects; note that some have not answered the box in question, or have answered a different one, hence the total is not 15 for each row.

Table 3

The Spheres of Influence Table, Filled in by 15 Respondents

	a) Method e.g. conversation, presentation, consultancy, etc.	b) Impact e.g. low / medium / high	c) Frequency e.g. often, rarely, twice, etc.
1. Unit / School	4 x conversations 5 x presentations 1 x teaching materials	1 x low 3 x medium 1 x med-high 3 x high	3 x often 1 x several times 1 x monthly
2. Faculty	3 x conversations 2 x presentations 1 x meeting 1 x workshop	1 x low 3 x medium 2 x high	2 x often 1 x twice 1 x quarterly 1 x occasional

3. Other faculty / department	3 x conversations	1 x low	2 x often
	2 x steering group reports	4 x medium	2 x once
	1 x seminar	1 x med-high	1 x annual
	1 x stand at event		
4. Senior university management	3 x conversation	4 x medium	1 x often
	3 x presentations	3 x high	3 x once
	1 x committee paper		1 x twice
	1 x steering group report		3 x occasional
5. External national	8 x presentations	1 x low	1 x often
	1 x article	8 x medium	6 x once
	1 x blog/social media webinar	1 x high	1 x twice
6. External international	4 x presentations	1 x low	1 x often
	4 x conference papers	4 x medium	5 x once
	1 x keynote speech	1 x high	3 x twice

Method

It is clear that the answers gave suggested conversations at levels 1-4, and presentations all the way through. At the senior university management and other departmental units, contributions were made to steering group reports. Conference papers and a keynote speech are given for the external audience.

Frequency

It is clear also that as you move up through the Spheres, the frequency changes, i.e. the amount that a respondent engages is this type of dissemination. These occur more 'often' in Spheres 1 and 2, although that's not to say it doesn't happen at all in other Spheres.

Impact

Since we surveyed projects that were at different timelines regarding completion, this model also helped us to examine more deeply, the effect of time on impact. One of the issues arising from the Impact Levels model to capture impact is that it takes a snapshot of a particular time, when impact may not yet have happened, and project teams may have forgotten prior engagement or impact that has already happened. The Spheres of Influence model contrasts with this, by providing a way of capturing engagement and impact throughout a project's timeline. By analysing different cohorts of projects (those that had completed in the last 3 years, compared to ones that had completed in the past year), we were able to look at how time can contribute to the impact of a project.

It appears that projects completed more recently didn't have as many instances of 'high' impact compared to the earlier projects. This could have been coincidence, or it could indicate the importance of time as crucial factor in enabling impact to occur.

What is clear from the Spheres of Influence model is that it allows for projects to log instances of engagement and impact throughout the project, rather than taking a snapshot at a particular point in time (e.g. at the project's end), as evidenced in the Impact Levels model.

Examples

The examples given follow typical university structures. For Spheres 1 and 2, specific conversations with learning designers, library staff and tutors. There was also progress reported to university committees, such as the Open Board of Studies, shared as an agenda item. It was also shared with tutors at staff development sessions.

Spheres 3 and 4 were slightly higher in terms of who the university personnel engaged with. They discussed strategy with colleagues; raised the issues found by the project with other faculties and also dissemination via an internal event to give out findings and implications. A head of department was invited to a research group seminar where the project was presented and a workshop was presented that invited representatives from relevant units. A journal paper was produced that was linked to their LATIS research and a new referencing policy statement approved.

At Spheres 5 and 6, the level of impact reached becomes higher again. One project was accepted to present at the Interdisciplinary Teaching and Learning Conference. A presentation at Jisc Learning Analytics research group lead to interest and input on design from a range of institutions. Presentation and discussion about the project with European and North American colleagues was, likewise, a good knowledge-building and knowledge-sharing exercise. A keynote speech delivered at University of Cambridge was particularly noteworthy.

What the Models Can Do Now and Potential Other Uses

This paper has presented two models that can be used to assess impact from scholarship. The new Impact Level model gives an excellent overview of how impact can be measured, using a micro-meso-macro and internal/external factors to mark impact happening at a certain time. To make it slightly more complex, practitioners might like to use the Spheres of Impact model, which also asks project respondents for an idea of what impact they've achieved, as well as the method used and frequency of the dissemination. This gives a good view of impact – however timing is an issue, and these models must be brought out at regular intervals in order to assess impact.

Another purpose that they can be used for is assessing impact of research projects. The Scholarship of Teaching and Learning is just one area that this can be used in; the scholarship of *discovery* is another. Pathways to impact – once a heading in EPSRC (Engineering and Physical Science Research Council) for funding – is now no longer a heading but must be included in the main body of any bid. Many UK and European funding bodies now require a work package devoted to impact and dissemination, and so a tool to assess impact would be invaluable. Likewise, knowledge exchange is a field in which impact is of central importance. Being able to measure it would be greatly needed, and this is where this pathway—and these two models—may end up.

Limitations and Future Work on the Models

These different models are not without limitations. Answers are based on respondents' own judgement and can be somewhat objective. The models do not take into account time as a factor in assessing impact (although the Spheres of Influence model does look at frequency/regularity), which as we have seen can have an important effect (see also e.g. Sivertsen & Meijer, 2018). Time is critical in 'knowing' a particular situation, as are incidents that happen along a 'journey' in time, which may make the journey more or less memorable (Jones et al., 2004).

These two issues highlight where the models could be improved: timing could become a cube, with timing explicitly considered (i.e. time at which impact occurs). This could add an exciting addition and give a real visualisation of time against micro/meso/macro and internal/external. For the Spheres of Influence model, the grid could be filled in at regular intervals (e.g. monthly), or a date column could be added to record when the impact occurs. Timing is an important consideration and is sadly lacking in most models of impact – we see a way around this, in a positive manner, by adapting these two models.

This 'journey' idea relates to the conditional matrix levels mentioned previously. Within each level are aspects relating to economic, cultural, political, environmental, and social elements. Much work around conditional/consequential matrices also look at the *path* from micro-meso-macro, or vice versa, to attempt to analyse the factors contributing to particular phenomena (Strauss, 1989). We have not delved into the finer detail of these, nor of potential paths through the matrices shown in our models. However, this could be a powerful way of detailing impact further and potentially unravelling what factors can relate to (the highest) impact. Impact is a difficult thing to measure, and we have two models which we can use, successfully. Detailing how impact happens, when, how, with whom; these are fascinating questions. We caution against associating cause and effect however; it is also worth remembering the possibility of unintended or unexpected engagement/impacts may occur (Hill & McAlpine, 2019).

Assessing the impact of such work might also not be appropriate, regardless of standard UK national frameworks. In analysing impact, this metric may have the undesirable outcome that the only work that will be encouraged is that whose impact can be assessed in a relatively easy manner (Burns & Squires, 2011). There may be types of scholarship work whose impact is not immediately clear e.g. where impact takes some years to become evident, or where subsequent projects are required to show beneficial outputs, but which would not have occurred without the initial piece of work. Instead, we could focus on outcomes rather than impact – these could include “*changed attitudes, behaviours, procedures, approaches to practice... enhanced networks, improved quality of relationships, and a variety of capacity building and social capital indicators*” (Burns & Squires, 2011, p.41). By looking at outcomes rather than impact, we can relate this to a theory of change model, that looks at the relationships between program activities (the 'journey') and the outcomes (Reinholz & Andrews, 2020). Theories of change are becoming increasingly popular as an impact methodology used by large organisations such as the UK Government's Office for Students, the NERUPI network (Network for Evaluating and Researching University Participation Interventions) and funders such as the National Science Foundation and Howard Hughes Medical Institute in the United States (NERUPI, 2021; Office for Students, 2019; Reinholz & Andrews, 2020). These activities and inputs could be said to map directly across to the conditional/consequential matrix components, but in a more specific and measurable way.

Conclusions and Recommendations

The aim of this paper has been to investigate how the impact of scholarship of teaching and learning can be assessed, through the use of two different, but connected models. By recording these impacts, we can also relate these to impacts in Knowledge Exchange and teaching excellence as well as research excellence. The new Impact Levels model is useful in considering two main dimensions of impact (level, and whether internal/external) and could be used to take a snapshot at a point in time. However, for logging impact – and engagement – through a project’s lifespan, the Spheres of Influence model is more appropriate.

Nevertheless, measuring impact is a tricky thing to do, especially when the level of impact may be low, or ‘normal’. Additional complications arise from attribution (where other factors may be affecting outcomes), causality (relationships between inputs and outputs may be unclear) and internationality (where activities and value chains may be global in reach, and not easily defined at an individual level) (Sivertsen & Meijer, 2018). These issues are in addition to the challenge of time scales and the time often needed for evidence of impact to emerge.

When discussing the future of SoTL, Hutchings et al. (2011) indicate a need for rigour within SoTL activities, to gain more universal acceptance. They also discuss the problem of recognition and reward and suggest that SoTL be integrated into annual staffing reviews, promotion, and salary considerations, which Vithal agrees with (2018). To do this, there needs to be a way of which the impact of the SoTL work can be assessed, which we have suggested in this paper.

Eventually, we may need to look at adopting existing frameworks from REF and TEF, and/or consider new ways of assessing impact that are more specific to institutional priorities. Above all, there is the clear need for us to become organisations who learn and grow, where the best scholarship projects can change practice not only across the institution but ultimately the wider educational – and societal – domains also.

Acknowledgments

We are grateful for discussions with Anne Adams, Clem Herman, Diane Butler, and Diane Ford in respect of the ‘spheres of influence’ model and wish to thank the eSTEE M scholarship centre for sharing it with us.

References

- Australian Research Council. (2020). *Engagement and Impact Assessment*.
<https://www.arc.gov.au/engagement-and-impact-assessment>
- Bishop, D. (2016, March 3, 2016). Clarity of purpose in the TEF and the REF. *Times Higher Education Blog*. <https://www.timeshighereducation.com/blog/clarity-purpose-tef-and-ref>
- Boshier, R. (2009). Why is the Scholarship of Teaching and Learning such a hard sell? *Higher Education Research & Development*, 28(1), 1-15.
- Boyer, E. L., Moser, D., Ream, T. C., & Braxton, J. M. (2015). *Scholarship Reconsidered : Priorities of the Professoriate*. John Wiley & Sons, Incorporated.
<http://ebookcentral.proquest.com/lib/open/detail.action?docID=4187268>
- Brinkmann, S. (2014). Doing without data. *Qualitative Inquiry*, 20(6), 720-725.
- Brown, S. C., Stevens, R. A., Troiano, P. F., & Schneider, M. K. (2002). Exploring complex phenomena: Grounded theory in student affairs research. *Journal of College Student Development*, 43(2), 173-183.
- Burns, D., & Squires, H. (2011). *Embedding public engagement in higher education: Final report of the national action research programme*.
https://www.publicengagement.ac.uk/sites/default/files/publication/action_research_report_0.pdf
- Department for Education. (2017). Teaching Excellence and Student Outcomes Framework Specification. In: UK Government. Available at
<https://www.gov.uk/government/publications/teaching-excellence-and-student-outcomes-framework-specification>.
- Doyle, J. (2018). Reconceptualising research impact: reflections on the real-world impact of research in an Australian context. *Higher Education Research & Development*, 37(7), 1366-1379.
- Elton, L. (1992). Research, Teaching and Scholarship in an Expanding Higher Education System. *Higher Education Quarterly*, 46(3), 252-268.
- Fenwick, C., Chaboyer, W., & St John, W. (2012). Decision-making processes for the self-management of persistent pain: A grounded theory study. *Contemporary Nurse*, 42(1), 53-66. <https://doi.org/10.5172/conu.2012.42.1.53>
- Goodrich, K. M. (2012). Lived Experiences of College-Age Transsexual Individuals. *Journal of College Counseling*, 15, 215-232. <https://doi.org/10.1002/j.2161-1882.2012.00017.x>
- Hall, R. (2017). Why should I care about the teaching excellence framework? – explainer. *The Guardian*. <https://www.theguardian.com/higher-education-network/2017/jun/19/why-should-i-care-about-the-teaching-excellence-framework-explainer>
- Hill, S., & McAlpine, H. (2019, 29 June 2020). Knowledge exchange or research impact – what is the difference between REF and KEF? *LSE Impact Blog*.
<https://blogs.lse.ac.uk/impactofsocialsciences/2019/05/20/knowledge-exchange-or-research-impact-what-is-the-difference-between-ref-and-kef/>
- HM Government. (2017). *Industrial Strategy: building a Britain fit for the future*.
- Hutchings, P., Huber, M. T., & Ciccone, A. (2011). *The Scholarship of Teaching and Learning Reconsidered: Institutional Integration and Impact*. By The Jossey-Bass Higher and Adult Education Series. Jossey-Bass.
https://books.google.co.uk/books/about/The_Scholarship_of_Teaching_and_Learning.html?id=GPbdPMVOyAIC&printsec=frontcover&source=kp_read_button&redir_esc=y#v=onepage&q&f=false

- Jones, A., Lygo-Baker, S., Markless, S., Rienties, B., & Di Napoli, R. (2017). Conceptualizing impact in academic development: finding a way through. *Higher Education Research & Development*, 36(1), 116-128.
- Jones, G., McLean, C., & Quattrone, P. (2004). Spacing and Timing. *Organization*, 11(6), 723-741.
- Minocha, S. (2021). *Impact Evaluation Framework for Scholarship of Teaching and Learning*. <https://www.shaileyminocha.info/blog/2021/6/7/impact-evaluation-framework-for-scholarship-of-teaching-and-learning> (Accessed: 8 October 2021)
- Mitchell, V. (2019). A proposed framework and tool for non-economic research impact measurement. *Higher Education Research & Development*, 38(4), 819-832. <https://doi.org/10.1080/07294360.2019.1590319>
- NERUPI. (2021). *Homepage: Network for Evaluating and Researching University Participation Interventions*. <http://www.nerupi.co.uk/about/overview>
- Neves, J., & Hillman, N. (2019). *Student Academic Experience Survey 2019*. <https://www.hepi.ac.uk/wp-content/uploads/2019/06/Student-Academic-Experience-Survey-2019.pdf>
- O'Leary, M. (2019). *What do academic staff think of the TEF?* <https://wonkhe.com/blogs/what-do-academic-staff-think-of-the-tef/>
- Office for Students. (2019). *Using standards of evidence to evaluate impact of outreach*. Guidance available at <https://www.officeforstudents.org.uk/publications/standards-of-evidence-and-evaluating-impact-of-outreach/>.
- Potter, M. K., & Kustra, E. D. H. (2011). The relationship between scholarly teaching and SoTL: Models, Distinctions, and Clarifications. *International Journal for the Scholarship of Teaching and Learning*, 5(1). <https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1273&context=ij-sotl>
- Reed, M. S. (2016). *The Research Impact Handbook*. Fast Track Impact.
- Reed, M. S. (2018). *The Research Impact Handbook* (2nd ed.). Fast Track Impact.
- REF2021. (2019). *REF2021 Panel criteria and working methods*. <https://www.ref.ac.uk/publications/panel-criteria-and-working-methods-201902/>
- Reinholz, D. L., & Andrews, T. C. (2020). Change theory and theory of change: what's the difference anyway? *International Journal of STEM Education*, 7(2), 1-12. <https://link.springer.com/content/pdf/10.1186/s40594-020-0202-3.pdf>
- Shreeve, A. (2011). Joining the dots: the Scholarship of Teaching as part of institutional research. *Higher Education Research & Development*, 30(1), 63-74. <https://doi.org/10.1080/07294360.2011.536973>
- Sivertsen, G. (2017). Unique, but still best practice? The Research Excellence Framework (REF) from an international perspective. *Palgrave Communications volume 3, Article number: 17078* (), 3. <https://doi.org/https://doi.org/10.1057/palcomms.2017.78>
- Sivertsen, G. (2018). Why has no other European country adopted the Research Excellence Framework? *LSE Impact Blog*.
- Sivertsen, G., & Meijer, I. (2018). *Evaluating and improving research-society relations: The role of normal and extraordinary impact*. R-QUEST Policy Brief no. 3 (2018), Available at [r-question.org/wp-content/uploads/2019/01/R-QUEST-Policy-Brief-3.pdf](https://www.r-question.org/wp-content/uploads/2019/01/R-QUEST-Policy-Brief-3.pdf)

- Strauss, A., and Corbin, J. (1989, 13 August 1989). *Tracing Lines of Conditional Influence: Matrix and Paths* Annual meeting of the American Sociological Society, San Francisco, California.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd ed.)*. Sage.
- Strauss, A., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications, Inc.
- The Open University. (2020). *Facts and Figures*. Retrieved 3 February 2020 from <http://www.open.ac.uk/about/main/strategy-and-policies/facts-and-figures>
- Timmermans, S., & Tavory, I. (2012). Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis. *Sociological Theory*, 30(3), 167-186.
- UKRI. (2020). *REF impact*. Retrieved 1 September 2020 from <https://re.ukri.org/research/ref-impact/>
- Vardi, I., & Quin, R. (2011). Promotion and the Scholarship of Teaching and Learning. *Higher Education Research & Development*, 30(1), 39-49. <https://doi.org/10.1080/07294360.2011.536971>
- Vithal, R. (2018). Growing a scholarship of teaching and learning institutionally. *Studies in Higher Education*, 43(3), 468-483. <https://doi.org/10.1080/03075079.2016.1180350>
- Wilsdon, J., Allen, L., Belfiore, E., Campbell, P., Stephen Curry, Hill, S., Jones, R., Kain, R., Kerridge, S., Thelwall, M., Jane Tinkler, Viney, I., Wouters, P., Hill, J., & Johnson, B. (2015). *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*. <https://doi.org/10.13140/RG.2.1.4929.1363>