Sheffield Hallam University | Student Engagement, Evaluation and Research

Evaluation of the National Mixed Methods Learning Gain Project (NMMLGP) and Student Perceptions of Learning Gain

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Evaluation Summary

1. The National Mixed Methods Learning Gain Project (NMMLGP) is one of a suite of learning gain pilot projects funded by HEFCE during the period 2015-2018.
2. In the autumn of 2017 Sheffield Hallam University (Hallam) was appointed by HEFCE to evaluate the NMMLGP. In 2018 HEFCE was replaced by a new regulatory body – the Office for Students (OfS) – who continued this stream of work. The evaluation was led by members of an evaluation research team who are based within the Directorate of Student Engagement, Evaluation and Research (STEER) at Hallam.
3. The original aim of the overall process evaluation was to 'understand the logistical requirements of administering a sector-wide learning gain questionnaire across multiple higher education providers in England'.
4. The stated objectives were to:
    - Understand the plans and processes put in place by the 10 NMMLGP institutions to recruit students to participate in the test/questionnaire and, where appropriate, to support students, particularly those who may have concerns with their test outcomes.
    - Identify approaches and practices that worked well, and those that were less effective.
    - Identify opportunities and challenges, and how these were utilised/overcome.
    - Understand students' experiences and opinions of the NMMLGP.
    - Identify issues and considerations for scaling up the NMMLGP to a sector-wide approach.
5. The evaluation research team reported interim findings to HEFCE in March 2018. As a result of this interim report, the newly formed OfS decided to discontinue administration and evaluation of the learning gain questionnaire with participating higher education providers (HEPs) within the NMMLGP; the questionnaire method was replaced by a more student-centred, qualitative approach that explored perceptions and conceptualisations of learning gain.
6. Phase 1 of the evaluation occurred between December 2017 and April 2018 and involved conducting nine interviews with HEP leads for the NMMLGP (one of the 10 HEPs did not participate in the evaluation). This process was informed by evidence from: participating institutions; key stakeholders, principally HEFCE and IFF Research (originally commissioned to administer the NMMLGP survey process); and an Annotated Bibliography of existing literature (see Appendix A) which was then assimilated into a Survey Research Design Checklist (SRDC). This was used as an evidence-informed tool to gauge the effectiveness of the plans and processes implemented by participating HEPs, HEFCE and IFF to

recruit students to take part in the project. A detailed exemplar of SRDC application is provided in Appendix B.

7. Phase 2 of the evaluation focused on student perceptions of learning gain from student researcher-led focus groups, convened with the originally participating HEPs and using the HEPs' own student voice mechanisms for recruitment of the sample. Between October and December 2018, two postgraduate student researchers facilitated 10 focus groups with students from five of the 10 NMMLGP-participating HEPs. To increase robustness of this phase, a counterfactual process was implemented with six additional focus groups, which explored student perceptions of learning gain in exactly the same manner, but within an institution where the NMMLGP had not been implemented.
8. Analysis Phase 1: Synopsis of evidence and interviews with HEP key contacts
    - Responding HEPs engaged an array of stakeholders and utilised a variety of governance approaches to embed NMMLGP (see section 5.1.1). These ranged from using established fora and committee structures to establishing Steering Groups specifically for NMMLGP.
    - HEPs found it problematic to integrate NMMLGP within programmes of study (5.1.2). This was due primarily to the sampling strategy and data privacy restrictions. All HEPs reported difficulty in utilising key stakeholders at programme level.
    - Staff engagement in NMMLGP was variable (5.1.3). All responding HEPs indicated that not having full access to the content of the NMMLGP survey hindered fullest staff engagement.
    - The majority of responding HEPs had put support structures and further training in place for staff engagement on an 'as required' basis (5.1.4). Institutional briefing materials for staff, which were communicated at project outset, appeared to be sufficient when operating within the context of NMMLGP.
    - There was considerable variation in how HEPs approached promoting NMMLGP with students (5.1.5). Several used a range of social media approaches: email; digital information screens; posters and leaflets; Virtual Learning Environment (VLE) pop ups; and local Students' Union engagement during Freshers' Weeks. Some HEPs reported that delays in timing regarding survey availability resulted in some miscommunications with students.
    - The overwhelming view expressed by responding HEPs was one of frustration in Phase 1 of this evaluation (5.1.6). Privacy constraints resulted in them being unable to identify respondents and thus being unable to offer ongoing student support, unless participating students self-referred. This was viewed as very problematic due to the longitudinal design of the project.

- Responding HEPs reported there had been repeated communication issues throughout the project (5.1.7). Many institutions identified poor administration, staffing changes at HEFCE, confusion around start dates, and reporting delays and errors as very challenging. Dissatisfaction was expressed about survey design, including length, complexity and removal from subject/disciplinary focus.
- All responding HEPs indicated that incentives appeared to have minimal impact on participation (5.1.8) although all acknowledged this was difficult to discern fully due to privacy constraints. This was exacerbated by the low response rates reported by several HEPs of between 1-2%. All used the prize draw facility offered as standard and several responding institutions used further incentives such as gift vouchers, free drinks and free mugs for participating students.
- Several responding HEPs sent generic reminders within the project timeframe to all eligible students to monitor participation (5.1.9) as it was impossible to know which students were participating. HEPs acknowledged that they had received weekly reports of take up from IFF. Four responding institutions felt that it was useful to receive cross-institutional benchmarking indicators to gauge their own institution's performance in relation to others.
- Follow-up communication with students (5.1.10) was difficult. Responding HEPs noted that it was impossible to have continuous communications with participating students due to being unable to track and identify participants. HEPs also indicated they were unaware of whether IFF had been in contact with their participating students separately.
- Dissemination of project results with key stakeholders in HEPs was problematic (5.1.11). All drew upon the benchmarked data provided by IFF but several stated this could only be used impressionistically when considering their own performance. Many participating HEPs did acknowledge that taking part in NMMLGP had raised wider awareness of learning gain.
- Many HEPs felt a real sense of frustration with the project in phase 1 (5.1.12) and did not feel that NMMLGP had lived up to expectations. Several felt the project design had significant flaws which then led to poor engagement and yielded minimal evidence. HEPs reported there is still considerable interest in addressing learning gain, but in doing it differently, such as through networking and the sharing of implemented and innovative methodologies.

9. Analysis Phase 2: Understanding students' perceptions of learning gain

    - The majority of participants demonstrated low to moderate awareness of the term 'learning gain' (5.2.1) with many reporting they were unaware of

the concept. There was a small minority who had discussed learning gain within a subject-specific context.

- Students were able to define and identify ways of measuring their progress (5.2.2) despite low levels of awareness of learning gain as a concept, which was defined typically as acquisition and application of knowledge and personal development.
- Participants agreed that a learning gain measure would be beneficial if flexible enough to meet individual circumstances (5.2.3). Many students stressed that a learning gain measure must have a clear and holistic purpose to enable progress and development to be tracked. It should also be embedded within a subject.
- There were a range of factors, including metrics, that students drew upon when choosing which course to apply for at university (5.2.3) but a national measure of learning gain was not deemed to be pivotal in their decision-making. However, a number of students raised the potential for using a learning gain toolkit or framework.
- There were mixed perceptions of the influence of incentives on participation (5.2.4). Several participants related the effectiveness of an incentive to the extent to which the activity is personally salient and internally motivating. Participants favoured incentives that were guaranteed and instant. Incentives were deemed more productive if they were introduced by a trusted source such as a course leader.
- The aim of the counterfactual analysis (5.2.5) was to look for corresponding and diverging opinions so that any impact of the NMMLGP on students' perceptions could be identified. Counterfactual evidence corresponded with data gathered from the five participating HEPs across all analytical themes: awareness of learning gain; defining and measuring learning gain; the perceived characteristics of an effective learning gain measure; and incentives.
- This analysis (5.2.5) suggests that the NMMLGP had little impact on student perceptions of learning gain within the main sample. The counterfactual sample participants did place greater emphasis on the application of knowledge for their employability and transferable skills, recalling experiences of studying on modules specifically designed to promote personal reflection of progress. This process reflected their conceptualisation of learning gain and how it should be measured.

10. Discussion

Findings from Phase 1 and 2 of this evaluation are discussed in relation to evidence gleaned concerning the original objectives.

- The evaluation of objective 1 (*Understand the plans and processes put in place by the 10 NMMLGP institutions)* demonstrated that limitations of the

initial Phase 1 research design were challenging for institutions trying to promote the NMMLGP.

- The evaluation of objective 2 *(Identify approaches and practices that worked well, and those that were less effective)* showed the significant challenges faced by HEPs in trying to operationalise NMMLGP. Recruitment, participation and support were problematic due to data protection aspects which prevented effective tracking. Due to low numbers of students engaged in the original NMMLGP, this objective could not be explored within the Phase 2 student-led focus groups.
- One of the major changes to NMMLGP occurred as a result of addressing the third objective *(Identify opportunities and challenges, and how these were utilised/overcome)*. At the end of the Phase 1 evaluation, it was agreed to curtail further rollout of the learning gain questionnaire, based on evidence that participating HEPs were disinclined to continue on that basis. The focus of the project was then changed to emphasise student engagement.
- Lack of access to data and a dearth of student engagement evidence in Phase 1 made exploring objective 4 *(Understand students' experiences and opinions of the NMMLGP)* untenable. Due to very low response rates from students invited to participate in NMMLGP, obtaining participant perspectives proved impossible. OfS, as project sponsors, recognised that student engagement needed to be explored in a different way. The sampling frame and scope was broadened in light of findings reported by the evaluators. Although student views gleaned in Phase 2 were not specific to NMMLGP, this objective was reoriented so that an understanding of students' perceptions of learning gain could be evidenced through the student-led focus groups.
- Evidence gathered regarding the final objective *(Identify issues and considerations for scaling up the NMMLGP to a sector-wide approach)* indicates that, in current guise, a national mixed methods survey is not a productive approach. This is confirmed by student perceptions in Phase 2.

11. Recommendations

For policy-makers and providers

- A one-size-fits-all measure of learning gain, based on NMMLGP principles, should not be pursued further as it holds minimal value for students.
- Students' perceptions of learning gain need further exploration, in order to move beyond the impressionistic findings reported here.
- The sector needs to consider whose interests are best served by the measurement of learning gain. Evidence gathered here indicates that there is a dichotomous view of learning gain: as a marker of institutional

positioning within a market-oriented system; or, as a process of progression throughout the student journey.

For providers

- Learning gain needs to be related to students' own context and clearly embedded at local level within subject/disciplinary areas. Engagement is highly dependent on whether initiatives are promoted by trusted sources such as course tutors, rather than unfamiliar contacts.

1. Introduction

In recent years there has been an increased interest in evaluating how learning gain can be used to capture the student experience within higher education. It is seen as a useful tool for measuring the impact that higher education can have upon its students. As this report will outline, learning gain was previously perceived as a valuable way for providers to distinguish themselves in the growing popularity and demand of attending university (RAND Europe, 2015) by evidencing the quality of their education to future students, as well as highlighting the professional development of their existing students to employers. The RAND Europe (2015) research was commissioned by the Higher Education Funding Council of England (HEFCE) to evaluate the importance of capturing learning gain within higher education. This research used an analysis of current literature, as well as information gathered from UK providers and higher education bodies, to evaluate opinions of learning gain and the different ways it was being measured and used. The report concluded that there needed to be more research and discussion around the importance of learning gain and also more evaluation into the practicality of different methods of measuring learning gain within higher education. This evaluation of the National Mixed Methods Learning Gain Project (NMMLGP) contributes to this growing body of work.

2. Background

In the autumn of 2017 Sheffield Hallam University (Hallam) was appointed by HEFCE to evaluate NMMLGP. In 2018, HEFCE was replaced by a new regulatory body – the Office for Students (OfS) – who continued this stream of work. The evaluation was led by members of an evaluation research team who are based within the Directorate of Student Engagement, Evaluation and Research (STEER) at Hallam.

The fundamental task of this project, as outlined in the original tender, was to conduct an effective longitudinal process evaluation of NMMLGP, as one strand of HEFCE's larger learning gain programme. The scope included the provision of a comprehensive understanding of the logistical and administrative requirements of managing the sector-wide learning gain questionnaire across 10 higher education providers (HEPs). This process evaluation sought to examine the existing infrastructure of the project via experiences and evidence gleaned from participating HEPs, students and additional stakeholders in the administration, implementation and use of NMMLGP.

3. NMMLGP Evaluation Objectives

The original aim of the overall process evaluation was to 'understand the logistical requirements of administering a sector-wide learning gain questionnaire across multiple higher education providers in England', whilst the stated objectives were to:

i. Understand the plans and processes put in place by the 10 NMMLGP institutions to recruit students to participate in the test/questionnaire and, where appropriate, to support students, particularly those who may have concerns with their test outcomes.
ii. Identify approaches and practices that worked well, and those that were less effective.
iii. Identify opportunities and challenges, and how these were utilised/overcome.
iv. Understand students' experiences and opinions of the NMMLGP.
v. Identify issues and considerations for scaling up the NMMLGP to a sector-wide approach.

The evaluation research team reported interim findings (from what was notionally called Phase 1 of the evaluation) to HEFCE in March 2018. These summarised progress made in terms of: establishing stakeholder relationships; data collection processes which included telephone interviews with HEPs' key contacts; documentary analysis; initial data analysis; and emerging lines of enquiry. This report was used as a decision-making tool for HEFCE, as Project Sponsor, to assist the evaluation research team in recognising the emerging challenges when undertaking this evaluation and in identifying possible courses of action to resolve further obstacles to progress. As a result of this report, the newly formed OfS decided to discontinue administration and evaluation of the learning gain questionnaire with participating HEPs within the NMMLGP, replacing it with a more student-centred, qualitative approach that explored perceptions and conceptualisations of learning gain (Phase 2).

Phase 2 of the evaluation was methodologically driven by the change in priorities of the OfS. This phase set out to explore student perceptions of learning gain in more detail, especially as in Phase 1 this was identified as an under-explored gap in the conceptual and methodological knowledge base for learning gain. Consequently, this evaluation report is presented and discussed primarily in two distinct components (Phase 1 and Phase 2).

4. Methodology

4.1. Evaluation Phase 1: NMMLGP

In addition to an Annotated Bibliography (Appendix A) of recent learning gain literature, Phase 1 of the evaluation drew on evidence from: participating institutions; other key stakeholders (e.g. OfS) and IFF Research (originally commissioned to administer the NMMLGP survey process). This stage of the evaluation involved conducting interviews with each HEP lead for the NMMLGP. This process was informed by existing literature that was then assimilated into a Survey Research Design Checklist (SRDC) which was used as an evidence-informed tool to gauge the effectiveness of the plans and processes implemented by participating HEPs, HEFCE and IFF to recruit students to take part in the project. A detailed exemplar of SRDC application is provided in Appendix B. The SRDC draws upon literature from systematic reviews of factors affecting response rates of surveys (e.g. Fan and Yan, 2010) and relevant learning gain projects, to provide a set of key criteria for evaluating effective longitudinal surveys. The criteria from the SRDC were applied to critique the operational plans and documentation of the project and have also informed the Phase 1 interview schedule with key stakeholders. The SRDC contains criteria relating to: access to the survey; level of student support; optimal length of survey; timing and possible information fatigue; question wording and ordering; survey question formats; and reporting and debriefing.

Between March and April 2018, all key contacts across the 10 participating HEPs were invited to be interviewed by telephone. Nine chose to participate, whilst one HEP declined, citing changes to staffing levels and resourcing as reasons for non-participation. The interview schedule is provided in Appendix C.

The Phase 1 interim evaluation report included several emerging lines of inquiry, comprising:

- **Consistency of approach**
  There was clearly a need for clarity about how much autonomy had been afforded to participating HEPs and how this had affected emerging outcomes. Initial evidence was gleaned from documentary analyses, alongside anecdotal evidence derived from conversations with key HEP contacts at the Networking Day on 6th February 2018. This Networking Day involved discussions with institutional contacts with operational experience of learning gain from the HEFCE Pilot Projects. These HEP contacts indicated that providers had some concerns about overall administration, communication mechanisms and appropriateness of timing concerning the effects on potential student participants and staff.
- **Access to survey**
  Mode of access and impact on uptake needed further examination; for example, the implications of accessing the survey via a direct link to students or when

warehoused through IFF. In addition, the level of embedding within or outside of the curriculum appeared to be influential.

- **Survey design**
  Questions were raised about the efficacy of the overall survey design, with sequencing, cognitive testing, sampling approach, length and complexity, and implications of findings viewed as pivotal.
- **Changes to survey structure and impact**
  Adaptations made from the first two rounds of data collection needed to be examined in relation to changes in survey questions and how students gained access to the survey, per se. HEPs speculated that this impacted upon reporting and levels of uptake. It also made direct comparisons across the survey problematic due to lack of comparable baseline evidence.
- **Feedback on results and institutional awareness (include unintentional consequences)**
  There was an unclear and inconsistent audit trail concerning: how results were presented back to students and when (timings appear to have been variable); how feedback was sought and provided; and whether participating HEPs gained access to this information and level of granularity. The evaluation research team was keen to examine possible unintended outcomes emerging from the feedback process but due to very low response rates and tracking difficulties, this proved untenable.
- **Stakeholder engagement**
  NMMLGP student engagement levels were problematic, which has been a prevailing theme across many projects linked to learning gain in the sector (Kandiko Howson 2017, 2018). The evaluation research team identified the need to uncover facets of the NMMLGP process that influenced student uptake within participating HEPs and which inhibited and/or enabled participation of students and other stakeholders, especially staff, at participating HEPs.

4.2. Evaluation Phase 2: Understanding Student Perceptions of Learning Gain

In light of the Phase 1 evaluation, OfS decided to conclude the learning gain questionnaire element of NMMLGP in the autumn of 2018. However, the evaluation has continued, this time focusing on the emerging lines of enquiry gleaned in Phase 1, to improve understanding of students' perceptions of learning gain.

Phase 2 has been constructed through collecting evidence from student researcher-led focus groups, convened within each institution, using the HEP's own student voice mechanisms.

Between October and December 2018, two postgraduate student researchers, employed as part of the evaluation research team ran 10 focus groups with students from five of the 10 participating HEPs. They were accompanied by a member of Hallam staff on all occasions to provide support and consistency. Each HEP was

responsible for room booking and the recruitment of their own student participants. Each focus group lasted for approximately one hour and 15 minutes and combined interactive activities with questions (see Appendix D: Phase 2 Focus Group Schedule). The focus groups addressed five areas of examination:

- Students' understanding/awareness of learning gain as a concept
- How students assess their own learning gain
- Students' awareness of NMMLGP
- If learning gain would impact on provider choice
- The local context of learning gain

Given the significant ethical challenges that existed within this project at inception regarding the complexity of the NMMLGP data, e.g. data sharing, privacy, market sensitivity, and direct access to HEPs' staff and students, ethical approval was sought and granted by the host institution of the evaluation research team. All data collection during the evaluation was conducted within defined parameters of confidentiality and anonymity and consent was sought from all respondents at each data collection point.

5. Analysis

5.1. Phase 1: NMMLGP Synopsis of Interviews with Key Contacts

The following synopsis provides headline messages emerging from a thematic analysis of telephone interviews, each of which was approximately one hour's duration, conducted with key contacts from the participating NMMLGP HEPs. All participating providers (10) were invited to be interviewed and nine interviews were completed in total. One provider declined to participate in this phase of the evaluation. The list of questions asked and accompanying evidence-based rationale for asking these questions is provided in Appendix B.

5.1.1. Embedding of NMMLGP within HEPs

Responding HEPs had an array of stakeholders involved in NMMLGP, utilising a variety of governance approaches. These ranged from using existing and established fora and committee structures, such as Student Experience Groups, to establishing Steering Groups created specifically for NMMLGP. One HEP had also used their academic registry to lead on this work.

All HEPs had senior buy-in at VC, DVC and PVC levels. Key contacts with operational responsibility were primarily in Director of Learning or Director of Student Experience roles. All responding providers expressed initial enthusiasm to engage in the process. In two interviews, the Teaching Excellence and Student Outcomes Framework (TEF) was mentioned as a contributing factor for agreeing to participate in the NMMLGP pilot.

5.1.2. Integration of NMMLGP within programmes of study

All responding HEPs found it problematic to integrate NMMLGP within programmes of study. This was primarily attributed to two external factors: the initial sampling strategy, which limited the possible involvement of participants and was particularly significant for those providers identifying as widening participation institutions; and the data privacy restrictions which placed the onus of responsibility for any dialogue at programme level solely upon participating students. As a consequence of these factors, all had found it difficult to utilise key stakeholders at programme level (such as personal tutors) who had been envisaged by providers as playing a key part in NMMLGP at the outset.

5.1.3. Staff engagement with NMMLGP

There were varied responses to how the project was promoted among staff, with resultant variability of engagement. Responding HEPs perceived that this might be linked to scale, with speculation that smaller providers might be able to promote NMMLGP more effectively. The primary mode of communication to staff at project outset was via a promotional email, utilising the HEP briefing paper provided by HEFCE. Several HEPs used additional staff briefings and slide presentations, whilst two used VC blogs and digital signage. Two institutions also mentioned using faculty committee structures to cascade promotion of the project.

All responding HEPs indicated that not having full access to the content of the NMMLGP survey hindered wider staff engagement. Some institutions reported that the survey clashed with other competing priorities and, in one case, a decision was made to deprioritise the NMMLGP survey, resulting in minimal promotion of the project with staff.

5.1.4. Support available to staff throughout the project

The majority of responding HEPs had put support structures and further training in place on an ‘as-required’ basis. Notions of support related to: hosting workshops (although several institutions considered that additional workshop input would not be welcomed by staff due to adding to workload); and having a centralised information point, usually accessed by email, to field staff enquiries. One institution set up a team to handle emergent NMMLGP enquiries from both staff and students.

In practice, the prepared institutional briefing materials for staff, communicated at project outset, appeared to be sufficient when operating within the context of the project. Many responding HEPs indicated that no additional requests for support had been received from staff to date within the project.

5.1.5. Student engagement with NMMLGP

There was considerable variety in how HEPs approached promoting NMMLGP with students. One responding institution reported that they did not promote the scheme beyond the initial emailing of possible participants. Several others used a

considerable range of resources, including: email; digital information screens; posters and leaflets; Virtual Learning Environment (VLE) pop ups; and local Students' Union engagement during Freshers' Weeks. Two responding institutions used a range of social media to promote the project.

Several responding HEPs reported that delays in timing regarding survey availability, especially at project inception, resulted in some miscommunications with students, which hindered promotional opportunity. Several responding institutions surmised that it was probably easier to engage with students within a smaller organisation which had fewer logistical constraints.

5.1.6. Support available to students throughout the project

The overwhelming view expressed by responding institutions in Phase 1 of this evaluation was one of frustration. The privacy constraints resulted in HEPs being unable to identify respondents and thus being unable to offer support unless participating students self-referred. This was viewed as very problematic due to the longitudinal design of the project.

Several participating HEPs noted considerable interest before the scheme, however this dissipated markedly when the privacy constraints were imposed. Reliance on student self-referral was viewed as extremely detrimental to both motivation to continue the project and to gaining any meaningful insights. Several responding institutions stated that no email queries had been received at all from participating students and, due to matters of privacy, there was no comprehensive way of knowing whether any students had contacted personal tutors to discuss findings unless disclosed directly.

5.1.7. Survey administration

All responding HEPs reported that there had been repeated communication issues throughout the project, especially at project inception. Many institutions identified poor administration, staffing changes at HEFCE, confusion around start dates, and reporting delays and errors as very challenging.

Responding institutions were very frustrated as several administrative errors occurred in Tranche 1 (the first year of the learning gain questionnaire survey) which meant that students received mixed messages about eligibility, survey timing and the window for completion. There were unrealistic notions concerning repeating the test survey in the same academic year, queries about the purpose of this, and frustrations caused by participants having to wait until well into Semester 2 to receive test results.

There was tangible dissatisfaction expressed about the survey design, including that the length, complexity and complete removal from subject/disciplinary focus rendered most of it in their opinion as meaningless and demotivating for potential participants and institutions hoping to gain real insights into learning gain. It was acknowledged that the move to an open URL link in Tranche 2 (the second iteration of the learning gain questionnaire which was developed and delivered in Year 2 of

the project) was more productive in terms of sample accessibility; however, this move inevitably resulted in a lack of comparative data being available longitudinally.

5.1.8. Incentives for student participation

All responding HEPs indicated that incentives appeared to have minimal impact on participation, although all acknowledged that this was difficult to know with any precision due to privacy constraints (see 5.1.6 above).

All used the prize draw facility offered as standard for participating HEPs and several responding institutions used further incentives such as Amazon vouchers, free drinks and free mugs for those participating. It was reiterated that institutions could not know who the participants were who had taken the NMMLGP questionnaire unless self-disclosed, hence it was impossible to track accurately. Two responding institutions felt that there were real issues of equity concerning access to the incentives due to restrictions imposed on the sample in Tranche 1 (Year 1 of the test survey). The majority of responding institutions implied that they had scaled back any additional incentives in Tranche 2 (Year 2 of the test survey) due to recognising the impact of the very low response rates emerging from Tranche 1 which had caused them to revisit the project's strategic significance.

5.1.9. Monitoring of student participation throughout the project

Several responding HEPs sent generic reminders within the project timeframe to *all* eligible students as it was impossible to know which students were participating. One used on-screen reminders (pop-ups) to inform students that the survey window was still open to encourage uptake. Several also stated that they were unwilling to do anything further due to not knowing which students had accessed the survey.

Two of the responding institutions had originally set targets of around 20% take up of the NMMLGP test survey among the available student population but this was revised downwards considerably in light of very low response rates and these targets have now been removed. Several responding institutions noted that they appeared to average a 1-2% response rate.

All HEPs acknowledged that they had received weekly reports of take up from IFF. Four of the responding institutions felt that it was useful to receive cross-institutional benchmarking indicators to gauge their own institution's performance in relation to others, despite caveats about low response rates.

5.1.10. Follow-up communications with participating students

Due to being unable to track and identify participants, all responding HEPs noted that follow up communications with participating students were impossible, although they did imply that they were unaware of whether IFF had been in contact with their participating students separately. Several speculated that it would be useful to know whether IFF had data that could be shared regarding how many students dropped out at institutional level.

5.1.11. Dissemination of project results with key stakeholders in HEPs

All HEPs drew upon the benchmarked data provided by IFF but several stated this could only be used impressionistically when considering their own institution's performance. Several felt that the institutional data was meaningless and had not used it for any wider purpose. Given the frustrations with the process, one institution opted out of allowing individuals to compare results for fear of demoralisation; however, many participating institutions did acknowledge that taking part in NMMLGP had raised wider awareness of learning gain.

Crucially, many mentioned that there was a strong reluctance to engage in any proposed Tranche 3 (Year 3 iteration of the test survey) and, if they did so, they would only employ the minimum resource required to complete the project.

5.1.12. Additional information

In Phase 1 of the evaluation, the majority of responding HEPs felt a real sense of frustration with the project and did not feel that the NMMLGP had lived up to their expectations. Several mentioned that they felt the project design had significant flaws which had then led ultimately to poor engagement and had yielded minimal evidence. This had resulted in rapid institutional de-prioritisation as the project progressed.

The Phase 1 evaluation identified several key aspects of the project to date:

- Ownership at institutional level is critical. Without integration and embedding, learning gain cannot be explored effectively. Without further context, participating providers reported that students consider NMMLGP to be irrelevant and thus their engagement is problematic.
- HEPs reported that there is no appetite for a 'one-size-fits-all' approach to learning gain. It needs to be part of a tailored process, depending on context.
- The notion of surveying and testing learning gain as a concrete, definable construct was questioned by the majority of participating HEPs.
- Participating HEPs reported that there is still considerable interest in addressing learning gain, but in doing it differently, such as through networking and the sharing of implemented and innovative methodologies, which take into account institution-specific application.

5.1.13. Identification of other key contacts who can contribute to this evaluation

No further stakeholders were identified by responding institutions in Phase 1.

5.2. Phase 2: Understanding Student Perceptions of Learning Gain

Based on the evidence and outcomes emerging from Phase 1 of the evaluation (see 4.2 above), OfS in consultation with participating HEPs decided to withdraw the learning gain questionnaire at the end of Tranche 2. Despite the difficulties

highlighted in the first phase of the evaluation, there was demonstrable interest in exploring more qualitative evidence concerning students' perceptions of learning gain, both conceptually and practically. It was therefore agreed to continue examining students' perspectives by offering to conduct student-led focus groups with all participating HEPs. To provide a further evaluative focus, a counterfactual sample drawn from a HEP which had not participated in NMMLGP was included in this phase (see 5.2.5 below).

The research team conducted 10 student focus groups across five of the 10 institutions that participated in the NMMLGP (see Appendix D). The sample reflected a range of providers across the sector in terms of their size and mission group. A total of 41 students participated in the focus groups, of which 25 were female and 16 were male. Students came from a wide range of subject areas, levels, and backgrounds. Two students were on a foundation year, 15 at level 4, 12 at level 5, and 12 at level 6 (levels 4, 5 and 6 equate to each progressive undergraduate stage of learning in higher education). The counterfactual sample was drawn from one institution, where six focus groups were conducted. A total of 48 students participated in these focus groups, of which 35 were female and 13 were male. Students came from a wide range of subject areas, levels, and backgrounds. Three students were on a foundation year, 16 at level 4, 12 at level 5, and 17 at level 6.

5.2.1. Awareness of learning gain

The majority of participants demonstrated **low to moderate** awareness of the term learning gain, with many reporting that they were completely unaware of the concept. However, there was a small minority who had discussed learning gain within a subject-specific context; for example, a personal development module.

5.2.2. Defining and measuring learning gain

Participants were able to define and identify ways of measuring their progress despite low levels of awareness of learning gain as a concept. Learning gain was typically defined as the acquisition and application of knowledge and personal development.

Learning gain transcends formal academic contexts and encompasses all aspects of personal development. Grades were identified as key indicators of progress by some students, with assessment outcomes being used as reference points to monitor performance over time:

> *Three years later my essays should be a lot better, so it's seeing the grades and how you mark and having your performance growing throughout time*.

However, participants across focus groups were largely unanimous in perceiving learning to be more holistic by referring to indicators of development that were more interpersonal, subjective and personally salient:

The whole point of this sort of environment is that you do learn obviously academically but you develop other skills, social skills, communication skills, how you present to people.

It's not just grades for most people, it could be just if someone has struggled to do one thing, the personal gain is going to get them further. The academic grades is a good point but it's not just that, there's more onto that.

Following further discussions, some participants articulated that marks were too restrictive to capture their broad conceptions of learning gain. Qualitative-based measures, such as feedback from tutors and peers, were deemed to be more valuable for **informing personal development:**

Sometimes if you don't have the grades and the tutors give you amazing feedback and say like you need to fix this stuff, it's even better than the mark.

Sources that provide constructive feedback and dialogue, in conjunction with tools that promote self-reflection, were commonly used to identify personal strengths and weaknesses, monitor progress and establish new goals. A recurring theme was the importance of self-evaluation:

You have to ask yourself is this good enough? Am I happy with this? Then if you're not, you have to say, okay, how do I fix it? How do I make it better?

According to a few participants, learning is **non-linear** and **shaped by academic and personal successes and setbacks**. One student affirmed the importance of being able to reflect on lessons learned from past experiences:

Learning gain is kind of like understanding, yeah that's happened and yes I'm not on my track at the moment but how do I get back to it? It's kind of having the strength to kind of accept that you aren't in the place that you want to be.

Learning was perceived by some students to be an ongoing process of evolvement, which is comprised of building on and challenging existing knowledge and beliefs over time. Other participants referred to learning **as a journey of self-discovery and personal transformation**:

There are things that I've learnt about myself I didn't know that I could do before, like even two months ago. I can't do this, I can't do that. Yes I can do this. So I'm discovering a side of myself that I didn't know existed.

The **application of knowledge** was viewed as integral to how students measure their learning and how it consolidates their understanding. Participants discussed the application of knowledge broadly, relating it to having a better comprehension of their subject, connecting ideas between modules and the practical application of skills:

I would define it as having the ability to apply the concepts that I've learnt to practice.... If you had lectures for your whole degree and then went out and wanted to get a job... you wouldn't know what you were doing, so going from the kind of principle and applying it.

5.2.3. Perceived characteristics of an effective learning gain measure

Participants broadly agreed that a measure of learning gain would be most beneficial if was **flexible to meet their individual circumstances.** There was recognition that progression is variable across cohorts of students:

> *Someone might start at this level, another one might start at this level but it doesn't mean this one is inferior, it's just a different level but they're both going to go up*.

Many students stressed that a **learning gain measure must have a clear purpose and rationale** and enable progress and development to be tracked.

Students suggested that a measure of learning gain should comprise of a **holistic package** of support that incorporates qualitative tools. A number of students raised the potential for a learning gain toolkit or framework to be used as a point of discussion and reflection with tutors and other members of the learning community.

Careful consideration needs to be given to the types of questions included in a potential measure. Several students expressed doubt over the usefulness of critical thinking and problem-solving questions, which were deemed to favour certain disciplines. In order to ensure that the measure is relevant and useful, many participants expressed the view that it should be **embedded within a subject**:

> *I guess that when you see it's more relevant to your course, so this would be because obviously I find some subjects easier than others.... I don't really feel like that could necessarily apply to me*.

There were a range of factors, including data from metrics, which students drew upon when choosing which course to apply for at university:

> *Yes you look at the league tables but there's so much more that goes into a decision…. For me it was like travel, location, what the culture of the university was like.*

Subsequently, a **national measure of learning gain was not deemed to be pivotal** in this decision-making process.

5.2.4. Incentives

There were mixed perceptions of the influence of incentives on participation. Several participants related the effectiveness of an incentive to the extent to which the activity is **personally salient** and **internally motivating** to take part in:

> *It depends because extrinsic motivation is giving someone a reward before they actually perform it sometimes.... But it's sometimes intrinsic motivation; I mean if it's someone actually passionate about that subject... they're going to come to this just to see what other people think about it and how they can improve themselves.*

The majority of participants favoured incentives that are **guaranteed** and **instant**, most notably in the form of food and vouchers. One student stated that they would prefer *a small amount that I know I'm going to get rather than a big amount which I'll never get.* Furthermore, skepticism was expressed over the legitimacy of lottery-type prizes.

Another determining factor for participation was the way in which activities are introduced to students. Participants were more willing to take part if an initiative was promoted by a trusted source such as a course tutor. A small number of students expanded on this by citing the importance of establishing and **maintaining a trustful and reciprocal relationship**. In contrast, the likelihood of participation was lower if it was initiated by an external or unfamiliar source.

5.2.5. The counterfactual perspective

The purpose of including counterfactual evidence was to explore student perceptions of learning gain within institutions where the NMMLGP had not been implemented. The aim of this analysis was to look for corresponding and diverging opinions such that any impact of the NMMLGP on students' perceptions could be identified. The project team acknowledged the potential conflict of interest of collecting evidence from students at their own institution, but drew on their experiences as researchers and the robust ethical procedures of their institution. This ensured that the data was collected in a consistent and transparent manner to mitigate risks and any potential bias.

The responses from the focus groups capturing the counterfactual perspective corresponded with evidence gathered from the five participating HEPs across all analytical themes: awareness of learning gain; defining and measuring learning gain; the perceived characteristics of an effective learning gain measure; and incentives. On the whole, awareness of learning gain was low, and there was a lack of perceived value of the NMMLGP questionnaire and its application. Similar variations in the perceived use of learning gain measures as a tool to support provider choice were observed. As a counterfactual narrative, this analysis suggests that the NMMLGP had little impact on student perceptions of learning gain within the main sample. This analysis reinforces the conclusion that recruitment, participation and overall support for the NMMLGP within pilot institutions faced a number of challenges which resulted in low awareness and engagement from the student populations.

However, it is interesting to note that the counterfactual group participants did place greater emphasis on the application of knowledge for their **employability** and **transferable skills**. Many counterfactual group participants also recalled experiences of studying on modules specifically designed to promote personal reflection about their progress, which reflected their conceptualisation of learning gain and how it should be measured.

We have to do developing professional practice and we have to do reflections all the time... so at the end of the year, three years, when we find a job we'll give them our website where we've been making this portfolio and its reflections of what we've done throughout the three years.

This evidence suggests that the current strategies for supporting the measurement of learning gain within institutions (and further within disciplines/courses) also influence student perceptions of learning gain.

6. Discussion of Findings

The findings from Phase 1 and 2 of this evaluation are discussed in relation to evidence gleaned from project stakeholders concerning the original objectives (see Section 3 above).

In evaluation of objective 1 (**Understand the plans and processes put in place by the 10 NMMLGP institutions to recruit students to participate in the questionnaire and, where appropriate, to support students, particularly those who may have concerns with their questionnaire outcomes**) it is apparent that limitations of the research design of the NMMLGP were challenging for institutions trying to promote the project. Various strategies were employed at the outset to recruit students to participate. However, there were some misunderstandings at the early stages of the project about which students were within scope and by which mechanisms. The proposed student sample was clarified as the project progressed, but this inevitably hindered participation, particularly from HEPs that identified as 'widening participation' institutions and found their potential sample population reduced. Due to research design flaws, the scope of the project had to be adjusted during delivery across Tranches 1 and 2, which meant that opportunity for meaningful comparative analysis was lost.

The participating HEPs reported that they were enthusiastic at the outset of NMMLGP to find out more about learning gain and whether a national test could be of use. However, a clear message emerging from the Phase 1 evaluation indicated that none of the participating HEPs wished to continue on the same basis with NMMLGP but they did wish to gain more insights into what their own students thought about the concept. As a result, 50% of the original HEPs continued their active engagement in Phase 2.

Within this evaluation phase, students from participating HEPs confirmed that they had minimal or no awareness of their own institution's participation; they also had low awareness of learning gain, per se, regardless of NMMLGP engagement. Evidence gleaned from counterfactual groups indicated a comparable lack of awareness regarding learning gain as an important construct within higher education.

Reporting in the Phase 1 evaluation regarding objective 2 (**Identify approaches and practices that worked well, and those that were less effective**) reiterated the significant challenges faced by HEPs in trying to operationalise NMMLGP. As identified in 5.1.3 to 5.1.7 above, recruitment, participation and overall support were problematic due to data protection aspects which prevented effective tracking and led to reliance on students' self-identification and disclosure. Due to low numbers of students engaged in the original NMMLGP, this objective could not be explored within the Phase 2 student-led focus groups

One of the major changes to NMMLGP occurred when addressing the objective 3 (**Identify opportunities and challenges, and how these were utilised/overcome**). In further discussion with all stakeholders at the end of Phase 1 of the evaluation, it was agreed to curtail further rollout, based on evidence that participating HEPs were disinclined to continue on that basis. Hence, the focus of the project was changed to emphasise student engagement.

This approach was given further validation when seeking to evaluate objective 4 (**Understand students' experiences and opinions of the NMMLGP**) as the lack of access to data and a dearth of student engagement evidence made exploring this objective untenable. Due to very low response rates from students invited to participate in the initial tranches of NMMLGP, obtaining student perspectives from those who had participated proved impossible. Being positive, OfS, as project sponsors, recognised that student engagement needed to be explored in a different way; hence the sampling frame of the original project was abandoned so that the scope of the project could be broadened in light of findings reported by the evaluators. Although the student views gleaned above were not specific to NMMLGP, Phase 2 reoriented this objective so that an understanding of students' perceptions of learning gain could be evidenced through the student-led focus groups defined in section 5.2 above.

In relation to the final objective (**Identify issues and considerations for scaling up the NMMLGP to a sector-wide approach**) the evidence gathered from Phase 1 of this evaluation indicates clearly that, in current form, a national mixed method survey is not a productive approach. This is confirmed by student perceptions in Phase 2 which identified that any broad-based approach needed to have a clear purpose and rationale. Students felt that it should also be part of a more holistic and tailored package that students can use to map their own progress in a variety of ways.

7. Recommendations and Further Work

The following recommendations are based on the aforementioned evidence drawn solely from this evaluation. It is acknowledged that these are impressionistic research findings and bound by proportionality constraints.

For policy-makers and providers

- A one-size-fits-all measure of learning gain (modelled on the NMMLGP questionnaire) should be abandoned as it holds minimal value for the majority of students and is not an influential construct in their present decision-making concerning either choice of institution or impact on the curriculum.
- Students' perceptions of learning gain need further exploration in order to move beyond what are acknowledged as impressionistic findings reported here, which are bound by proportionality constraints.
- The sector needs to consider whose interests are best served by the measurement of learning gain. The evidence gathered here from participating providers and their students indicates that there is a dichotomous view of learning gain: either as a marker of institution positioning within a market-oriented system; or as a process of progression throughout the student journey. The two things are not necessarily synonymous.

For higher education providers

- All learning gain work needs to be related to students' own context and clearly embedded at local level within the subject or disciplinary area. Engagement is also highly dependent on whether any initiatives are promoted by trusted sources such as course tutors, rather than unfamiliar contacts.
- Providers should consider developing a repertoire of approaches, as part of a learning gain toolkit, which can be accessed by students as part of a flexible and adaptable process underpinned by student choice rather than normative comparison. Providers are encouraged to also review the findings of the overall evaluation of the learning gain Pilot Projects for approaches which are most suited to their local contexts.

8. References

Fan, W. and Yan, Z. (2010) Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior,* 26(2): 132-139.

Kandiko Howson, C. B. (2017) *Evaluation of HEFCE's Learning Gain Pilot Projects: Year 1 Report.* London: King's College.

Kandiko Howson, C. B. (2018) *Evaluation of HEFCE's Learning Gain Pilot Projects: Year 2 Report.* London: King's College.

RAND Europe. (2015) *Learning Gain in Higher Education* Bristol: HEFCE.

9. Appendices

A: Learning Gain Annotated Bibliography

B: Survey Research Design Checklist (SRDC) Exemplar

C: Phase 1 Interview Schedule

D: Phase 2 Focus Group Schedule

Sheffield Hallam University | Student Engagement, Evaluation and Research

Appendix A: Learning Gain Annotated Bibliography

Contents

Introduction

In recent years there has been a growing interest in evaluating how learning gain can be used to capture the student experience within higher education. When implemented effectively it is seen throughout current research as a useful tool of measuring the impact higher education can have upon its students. It is perceived as a valuable way for higher education providers (HEPs) to distinguish themselves in the growing popularity and demand of attending university by evidencing the quality of their education to future students, as well as highlighting the skills development of their students to employers (RAND, 2015).

In 2015 the Higher Education Funding Council of England (HEFCE) commissioned research, evidenced in the RAND (2015) report, into evaluating the importance of capturing learning gain within higher education. This research used an analysis of current literature and information gathered from HEPs and higher education bodies within the UK to evaluate current opinion of learning gain and the different ways it is being measured and used. Within this research the authors found numerous issues around the concept of learning gain. Firstly, the definition of learning gain changes across institutions. Whilst the report follows HEFCE's definition of the concept as an 'attempt to measure the improvement in knowledge, skills, and work-readiness and

personal development made by students during their time spent in higher education', the research highlights an uncertainty around what learning gain means, with some seeing it as 'distance travelled', some as 'value added' and some as merely 'learning' (p. xi). This uncertainty and lack of fixed definition creates a certain sense of hesitation around measuring the concept.

Secondly, the HEFCE research highlights another uncertainty in terms of the variety of ways in which learning gain can be measured. The authors identified 14 different ways of measuring learning gain within higher education ranging from assessment grades, to standardised tests, to surveys. As well they identified certain 'proxies' of measuring learning gain, such as graduate outcome survey's or data on student engagement and experience – concluding that these methods do not provide an accurate measurement of learning gain and need to be used alongside other methods. The report concludes overall that more research needs to be done in order to raise the awareness of the importance of learning gain and also to evaluate the practicality of these different methods of measuring learning gain within higher education.

Aims and objectives

The purpose of this literature search was to produce an annotated bibliography outlining the new literatures and research that have emerged since the RAND report was published in 2015. It aims to provide general contextual background that has emerged recently to support the longitudinal evaluation of the NMMLGP. This literature search focused on areas commonly referenced when discussing learning gain: (1) ways of measuring learning gain, (2) limitations to measuring learning gain, (3) ways that can benefit student learning gain and (4) purposes of measuring learning gain. These areas were chosen based on the main issues addressed in the RAND report – more detail of this is provided in the discussions of each area outlined in the below analysis.

Key findings

The following is a summary of the key findings of this literature search.

- There seems to be increased discussion of using current data sources to measure learning gain, despite previous perceptions that this was not the most effective method.
- Many continue to discuss limitations of using grades to measure assessment, with some advocating for reform in the way universities implement and respond to assessment.
- A large proportion of the sources focus on how current methods of teaching could be developed in order to further impact student learning, especially in terms of making sessions more interactive.

- A few sources mention the implications of using learning gain within the TEF, and the considerations needed for learning gain to be a beneficial aspect of the framework.

Research protocol

Organisation of the literature search

Once the aims and objectives of this literature search were finalised, the following databases were identified as the most relevant for this research.

SAGE journals	Scopus
Education Database on ProQuest/ Educational Research Abstracts	ERIC
Taylor and Francis Online	Science Direct

Alongside this, larger databases such as google scholar were also explored. One issue with searching google scholar is it brought up many useful sources that came from a Society for Research into Higher Education (SRHE) conference in autumn 2017. Most of these were posters or PowerPoint presentations and therefore did not have all the information needed to evaluate the source and, therefore, accurate analysis could not be ensured. As well, due to the nature and time-limit of the study, the search only focused on sources available in these databases and did not explore grey literature or sources from higher education websites, like the Higher Education Academy.

When searching these databases a set of search strings was established in order to ensure consistent research. However, as the aim of this search was to provide a general overview of the recent literatures, many of the search strings were kept broad (e.g. ‘Learning Gain’ AND ‘Higher Education’). The search strings varied in the terminology used, using phrases such as ‘value added’ and ‘distance travelled, in order to ensure thorough results.

Inclusion and exclusion criteria

The following inclusion and exclusion criteria were set in order to ensure an organised search.

Include	Exclude	Rationale
2016 onwards	pre-2016	In line with the purposes of the literature search
Higher education/tertiary education/further education	Primary education/secondary education/non-higher education	The literature search was focused on the higher education context
Region: anywhere		In order to explore the ways in which learning gain is perceived internationally – as a way to develop UK practice. Also to prevent the scope being too small
Specific reference to: methods of measuring learning gain; limitations in measurements of learning gain; ways of impacting student learning gain; the purpose of measuring learning gain		In line with aims and objectives of the research

Search process

When conducting the search a list was created that outlined the different sources discovered, their bibliographic information, the area(s) the sources address, whether the sources were relevant and the quality of the research. Following this, a data extraction process was used to outline the sources most relevant to the study. Due to the limited scope (i.e. the focus on post-2016 sources), the majority (p. 15) of the sources were put through the data extraction process, except those that were not higher education specific or any that merely provided a description of a current practice of measuring learning gain with no reference of its impact on current discussion. From these 15 sources, 10 sources were identified as being the most relevant and providing good quality research. These sources are included in the following annotated bibliography.

Annotated bibliography

Methods of measuring learning gain

As the RAND report highlighted there are numerous ways to measure learning gain across higher education; the response to whether these ways are effective or not varies. The report outlined how many of the ways to measure learning gain, such as grades or engagement surveys, were not initially created for this purpose. As well, the report notes that, with these types of measures, comparing across institutions can be difficult. They note that in order to accommodate for this difficulty they should be used alongside other methods. However, with some of the recent literature outlined below, they discuss how current data sources and methods can actually be used in isolation to measure learning gain.

Cameron, A. (et al.) (2018) An Investigation into the Comparative Learning Gain and 'Value Added' for Students from Widening Participation and Non-Widening Participation Groups: A Case Study from Sports Degrees. *Higher Education Pedagogies.* 3 (1), pp. 40-59.

The article discusses a longitudinal research project 'outlining graduate outcomes of both Widening Participation (WP) and non-WP students graduating from a sports degree, between 2000-2015' (p. 40). The aim of the research was to assess whether the learning gain was different between the two groups of students. In the higher education context, the authors point out that WP students 'are less likely to complete their studies' and 'are less likely to pursue postgraduate study' (p. 41). The authors outline that, apparently, WP students are 'less likely' to live in university accommodation or take part in university organised social activities, factors that, they argue, impact upon a student's learning gain. Whilst many have seen graduate outcomes as a 'proxy' for measuring learning gain, the study attempts to show how it can be beneficial to current research projects.

In this study students were asked to fill out a questionnaire that invited them to discuss areas of employability, such as career aspirations and their 'preparedness for employment' (p. 45). The responses were linked to demographic data in order to associate answers with WP or non-WP students. The overall findings of this showed there was no difference between the amount number of WP or non-WP students that were not awarded a degree; there was no difference between the degrees gained by students who were 'first in family' to attend university and those who had family history of higher education (p. 49). As well, the findings show that students from 'deprived backgrounds were as likely to complete postgraduate study' (p. 49). The study concludes that the research shows how the sports programme at this university benefits learning gain, but also shows how it is important to compare learning gain across student groups in order to ensure that education is inclusive and equally beneficial to all. As well, this study highlights how graduate outcomes can

actually be useful in measuring learning gain of students, rather than a proxy measure as it is currently seen in learning gain discussion.

Roohr, K. C. (et al.) (2017) Investigating Student Learning Gains in College: A Longitudinal Study. *Studies in Higher Education.* 42 (12), pp. 2284-2300.

This article presents a longitudinal study into student learning gain within American higher education. The study uses an ETS Proficiency Profile (EPP) to assess student gains within areas of 'critical thinking, reading, writing and maths' (p. 2284), in order to evaluate the difference in student learning gain across different periods of time. In addition, the research team aimed to use demographic data to evaluate predicting factors of learning gain. The EPP is a nationwide assessment taken by college students in the US that allows institutions to show the quality of their programmes offered for 'accreditation and funding purposes' (ETS, 2018). In this research, the authors used the EPP as a way of measuring the learning gain of students. The research was conducted on a sample of 168 students from one US institution. Students took the test at the beginning of their studies and were re-tested at different points later in their course; the 'learning gain was calculated using the difference between the first and last test scores' (p. 2289). The authors found that the more time spent at college the higher the learning gain across all four areas. They found that after two years students had minor learning gains, mostly in critical thinking, whilst after four or five years students had more substantial gains, mainly in reading and maths. As well, the researchers identified a 'racial/ethnic gap in college reading performance' (p. 2296), in which white students had more significant learning gains than students from other racial backgrounds. The authors conclude that strategies used to improving student learning gain need to be inclusive of all student identities in order to ensure the entire cohort is benefiting from the education. Whilst the authors note there are certain limitations to their study in regards to sample size and its focus on just one institution, the authors emphasise how a longitudinal study is the most appropriate way of measuring learning gain due to the 'limitations with cross-sectional data' (p. 2285).

Neves, J. and Stoakes, G. (2018) UKES, Learning Gain and How Students Spent their Time. *Higher Education Pedagogies*. 3 (1), pp. 1-3.

Neves and Stoakes argue that the United Kingdom Engagement Survey (UKES) is an effective tool for measuring student learning gain in higher education. The authors aim to show how the UKES assessment of student engagement can actually highlight the learning development of students. The authors used the 2016 data from UKES to show how student's engagement with activities outside of their academic course actually shows their skills development, an essential part of learning gain. From this data the authors found that there is a variation in skill development across the type of engagement activity, with each having a different level of impact. For

instance, the article notes that 43% of participants agree that their caring responsibilities impacted upon their academic skills, compared to 38% who agree their paid work benefits their academic performance. Additionally, 60% stated that their experiences of volunteering had benefited their career skills, whilst comparably 49% of students stated that their caring responsibilities had an impact on employability.

The authors conclude from their findings that, overall, students who engage with activities and commitments external to their academic course have a significant skill development due to their involvement in these activities. They conclude that looking at student's' engagement can highlight the impact it has on students learning gain, and their distance travelled in terms of skill. They also state that this highlights students own perceptions of their learning gain rather than being assessed objectively. Their research usefully provides an example of how a current data source could be used to measure student learning gain.

Limitations to measuring learning gain

A common area of discussion in terms of learning gain is the issues around some of the methods already in place to measure it. The RAND report outlines in detail the advantages and disadvantages of each potential method. For instance, in terms of using grades to measure learning gain the report notes that comparison across the sector is an issue as institutions and subjects measure assessment differently. Both of the sources outlined below continue to focus on how using assessment grades is a problematic way of measuring learning gain.

Boud, D. (2018) Assessment Could Demonstrate Learning Gains, But What Is Required for It to Do So? *Higher Education Pedagogies*. 3 (1), pp. 1-3.

Boud discusses the concerns that arise when using assessment grades as a basis for measuring the learning gain of students. This opinion piece states that in theory assessment grades should be able to measure student gains in learning, but this cannot happen as assessment 'ironically' does not determine 'what students can and cannot do' (p. 5). Boud outlines the main issues with assessment practice in higher education, which makes it problematic to use grades to assess learning gain. These issues include but are not limited to: (1) the variation in ways marks are given, (2) the disassociation between marks and learning outcomes, (3) the diversity of student performance across learning outcomes or marking criteria, or (4) the issues around re-sits and whether the original mark, or the re-sit mark, should be used to assess learning gain.

Boud argues that there is no common metric to assess gains through assessment, and it needs to be made clearer what university assessment actually aims to do. In concluding this opinion piece, Boud notes that current assessment practice cannot be used as a measurement for learning gain and, thus, advocates for a development

in assessment practice. Boud provides the following example on how to develop current practice: (1) corresponding assessment with learning outcomes, (2) there needs to be sector consistency about marking criteria, but only within the same course, and (3) learning outcomes need to be the same in one course across all levels of study. In turn Boud suggests that these developments will make assessment grades a more feasible tool for measuring learning gain. Whilst this source is limited in its scope as an opinion piece it explores the current limitations around using grades to assess learning gain, and provides solutions to making this tool more effective.

Ylonen, A. (et al.) (2018) Disciplinary Differences and Other Variations in Assessment Cultures in Higher Education: Exploring Variability and Inconsistencies in One University in England. *Assessment and Evaluation in Higher Education*. 32 (6), pp. 1-9.

Ylonen (et al.) explore how assessment practice in UK higher education has significant variations across different subject disciplines and institutions, and in turn argue that these issues raise uncertainty around using grades to measure learning gain. The authors use both theory and practical research to highlight inconsistencies across assessment practices. For instance, the authors initially outline the Biglan - Becher theory of the differences in assessment culture across disciplines, which determines the assessment practice of ‘hard disciplines’, like science subjects, is dominated by examinations, whilst ‘soft disciplines’, like education, have more focus on essays to assess students (p. 1). As well, their research evaluates the assessment grades of eight higher education institutions in the UK, as well as using information provided to them by academics via interview.

The authors found not only that learning gain differed across disciplines, but that there are many issues in how institutions mark students’ assessments. Despite the ‘Senate Scale’ marking system (p. 4), many academics noted that they adopted their own version of the marking system, whilst some interviewees highlighted how different institutions use different methods of calculating students’ grades. In addition, the authors show further inconsistency through the variations in subject nature; for instance, in science-based courses there is usually a right answer to questions asked in assessments, whilst for subjects in disciplines like humanities, assignments are usually formed on the basis of opinion. The authors conclude that these variations make it problematic to compare student learning gain across subject or institution using grades. They note that these issues need to be taken into consideration when developing the TEF to include an exploration of learning gain.

Methods that can benefit students' learning gain

Another area the RAND report addresses is how measuring learning gain can be used to 'inform improvements to learning and teaching' (p. 74). In some of the sources found in this literature search, many do this exact thing; they measure student gains in order to show how specific teaching tools benefit students learning.

Kinoshita, T. J. and Knight, D. B. (2017) The Positive Influence of Active Learning in a Lecture Hall: an Analysis of Normalised Gain Scores in Introductory Environmental Engineering. *Innovations in Education and Teaching International.* 54 (3), pp. 275-284.

The longitudinal study explores a 'SCALE UP' method in an engineering course in Australia, to explore whether active teaching methods, as opposed to more traditional lectures, can impact a student's learning (p. 275). The authors argue that whilst interactive teaching has been developed in engineering courses, there are issues around using active teaching in lecture halls; particularly that these teaching methods usually occur in 'flat-floored classrooms' (p. 276). In this research they incorporated activities into five sessions of the course, whilst all other sessions continued with the traditional lecturing style. Doing this created a 'quasi-experimental approach' in order to compare the impact of interactive sessions and traditional sessions (p. 278). One example of these sessions was as follows: the lecturer taught the class for approximately 40-50 minutes but for the remainder of the session students worked in groups to complete exercises (p. 278). These exercises were then graded after the session. As well, the students were asked to complete a test at the start of their course, this test included the same questions as their final exam, so therefore the researchers could thoroughly assess the learning gains.

The researchers found that 'normalised gain scores illuminate statistically significant differences between learning gains in content delivered using the active learning method versus a traditional, lecture- only delivery' (p. 275). They found a 16.7% increase in learning gain during the weeks of study that had more interactive learning. Therefore, the authors conclude that more interactive activities need to be adopted within lecture hall style environments; doing these adaptions of teaching methods can have a significant impact upon students learning gain.

Stanford, J. S., and Rocheleau, S. E. (2017) Early Undergraduate Research Experiences Lead to Similar Learning Gains for STEM and non-STEM Undergraduates. *Studies in Higher Education.* 42 (1), pp. 115-129.

In this article Stanford and Rocheleau outline a programme entitled the STAR (Students Tackling Advanced Research) Scholars Programme. This programme is a research scheme, in the US, in which undergraduate students work alongside an academic who mentors them through a research project. The scheme runs in the summer period between first and second year and students engage in full time

research with their faculty. All students in this programme are honours students and are given the opportunity to take part rather than being allowed to apply. The students are either high academic achievers or have been recommended by their faculty, and the programme is open to both STEM and non-STEM students. This study aims to compare the student outcomes of this project of both STEM students and non-STEM students. They aim to highlight how exposing undergraduates to research experience earlier on can impact upon their learning gain, and also benefit the faculty.

To assess the learning gain of these students the researchers used a USSRA (Undergraduate Research Students Self-Assessment) tool. The USSRA is a commonly used survey that 'has been shown to reliably measure gains in: content knowledge, laboratory skills, and personal growth among undergraduates engaging in STEM research' (p. 117). However, as this tool is usually used for STEM subjects they altered the questions in order to suit all courses involved. The students reported the most gains in research skills, independent work and presenting their research, whilst the authors identified the least gains in 'writing reports' or 'using statistics to analyse data' (p. 122). Overall the authors found that the project increased learning gain but that there was no amount difference between STEM students and non-STEM students, showing that it benefits students from all disciplines. The study, therefore, provides an example of a beneficial way to impact student learning gain. Whilst the programme only benefits a select number of students, making it more inclusive to students who are not high academic achievers could provide a thorough tool for impacting and measuring student learning gain.

Stonebraker, L. (2017) Library-Sponsored Case Competitions: Best Practices and Assessment of Learning Gains. *Journal of Business and Finance Librarianship.* 22(1), 46-60.

Stonebraker's article outlines an annual library case competition, in an American university, in which 'undergraduate students compete against one another to make better evidence-based decisions for business problems' (p. 46). In the competition the students are given a scenario that has a potential business problem and the students are expected to use existing information and research resources to solve the problem. The authors note that these competitions have significant impacts on student skills such as working in teams and being persuasive; however the article focuses on how it impacts student's 'information literacy' skills (p. 46). The article hopes to encourage other institutions to adopt the same practice due to the impact it can have on student learning gains. The research included students on an Information Literacy course and those who were not, to assess if learning gains were different. This study used qualitative data collection, such as focus groups, to gather student opinion on the competition.

The research found that the students thought their learning benefited from their involvement in the competition, noting that they enjoyed the experiences they

gained, such as marketing. Students were also offered to take part in a test both before and after the competition, in which they were asked to assess their ability to do certain things, such as research. These assessments show an increase in students' skills after the competition. As well, the authors found that the competition benefited the learning gains of students on the Information Literacy course and those who were not, showing its overall benefit to the entire student cohort. The author concludes that future research needs to be done on a larger scale in order to effectively highlight the benefit to learning gain. This research usefully highlights a different way to impact upon student learning gain that can be incorporated into other global higher education institutions.

Wiggins, B. L. (et al.) (2017) The ICAP Active Learning Framework Predicts the Learning Gains Observed in Intensely Active Classroom Experience. *AERA.* 3 (2), pp. 1-14.

The overall premise of Wiggins et al.'s study is to research whether 'interactive activities' are more effective than 'constructive activities' in increasing student learning, with the focus on STEM subjects (p. 1). The authors look into ICAP (interactive, constructive, active and passive) teaching methods, a theory developed by Chi and Wylie (2014) to assess different methods of student learning. The authors outline the range of teaching styles across higher education, incorporating both passive methods, such as lecturing, and more participatory sessions such as group work. The authors define constructive activities as those that 'require students to synthesise their own ideas and generate novel output', such as concept maps, whereas interactive activities are seen as an exchange of ideas with others (p. 2). The authors seek to prove the hypothesis that interactive sessions generate the most learning gain due to their focus on student engagement in the classroom.

In the research the authors created different classroom activities for students, ranging between interactive and constructive, within an undergraduate biology course. The activities focused on specific biological course content. The constructive activities asked students to show an 'understanding that went beyond the answers provided' (p. 4). Whereas with the interactive activities students worked in groups in which took it in turns to learn certain material and teach this material to each other. In order to assess which activity generated more gains the researchers conducted observations of the sessions and asked students to take a test. The test included exam style questions and students were asked to complete this before and after each session. The authors found that the students who participated in interactive sessions had higher learning gains. As well, the researchers assessed whether different demographic groups of students had differences in their learning gain. The authors found no difference between groups of students. Whilst their study raises an issue through their inclusion of scripts for students in the interactive activities, the study shows how evaluating the methods of teaching in university classrooms can benefit student learning gain.

The purpose of measuring learning gain

As part of the RAND report, two areas were addressed: (1) how measuring learning gain can provide information for prospective students and (2) how measuring learning gain can become 'part of the quality assurance of learning and teaching' (p. 74). In more recent research this area tends to be overlooked slightly, however one source provided a useful and current way of addressing both of these two areas.

Polkinghorne, M., and Roushan, G. (2017) Considering the Marketing of Higher Education: the Role of Student Learning Gain as a Potential Indicator of Teaching Quality. *Journal of Marketing for Higher Education.* 27 (2), pp. 213-232.

Against the background of the increasing rhetoric that perceives the university student as a customer, Polkinghorne and Roushan discuss how learning gain data could be evaluated as a marketing tool to promote the teaching quality at each institution to prospective students. The rise in tuition fees has increased a student's desire for more information about the quality of the institution and education that they are deciding to 'buy' into, and Polkinghorne and Roushan's study discusses how advertising learning gain can support this demand. Through discussions with university stakeholders, the authors highlight certain issues that need to be taken into account when evaluating learning gain, in order to utilise it as a marketing tool. These issues include: establishing a reason for measuring learning gain, that it needs to be fit for purpose and benefit both the student and the institution; there needs to be less conflation of learning gain and learning outcomes, in which current data sources need to be avoided when measuring learning gain; it needs to be taken into account that student satisfaction is not the same as student learning; there are variations in teaching across subjects and student learning is not solely dependent upon teaching quality; learning gain data needs to have a purposeful use for future employers.

The authors conclude that if these areas are addressed then learning gain can be utilised as a useful tool for the marketization of higher education institutions. As well, the authors note that when these areas are taken into account then the effectiveness of using learning gain within the TEF is increased and makes the framework more valuable for prospective students and employers. However, they note that measurements of learning gain need to be 'flexible' to appreciate the variations in 'teaching styles and learning methods' across higher education (p. 228). Yet with these areas in mind the authors present a useful and current way of evaluating learning gain in higher education.

Conclusion

Since the RAND report in 2015 there has been frequent research into learning gain within higher education. The sources outlined above build upon what was discussed in the RAND report in the areas of measuring learning gain, limitations of the methods of measuring learning gain, methods that can benefit student learning gain, and the purposes of measuring learning gain. Within these sources certain themes are clear. First, a few focus their discussion of using learning gain within TEF in order to highlight the quality of teaching within an institution. Secondly, some focus on how current methods of teaching could be developed in order to further impact student learning, especially in terms of making sessions more interactive. Thirdly, a few mention that current data sources, such as engagement surveys, can be used to measure learning gain independently. Finally, some continue to discuss how using grades is an ineffective way of measuring learning gain.

In accordance with evaluations of the NMMLGP, the above sources provide perspective for some of the areas the research team wish to explore. Some sources provide instances in which they highlight how a student engagement activity, such as the library case competition or the STAR research programme, can benefit students' learning gain. These sources show how a method of increasing student engagement with their course could actually be used to assess student learning gain and highlight instances of quality teaching practice. Yet, many of these methods are implemented within the structure of the course, specifically within classroom environment. Therefore, many of the sources that discuss this don't tend to explore how the learning gain measurements were advertised to students, or how students were recruited to take part. It is also clear that many of the studies only focus on learning gain within one institution, whilst some usefully show examples of a longitudinal study; it suggests a reluctance to evaluate across the sector, perhaps due to the variations in teaching and learning across institutions. A few of the sources discuss students own perceptions of their learning gain, however none discuss how the assessment of their learning gain was given back to students involved.

Overall, it is clear from these sources that recent discussion of learning gain focuses on many of the areas that the RAND report examined. The search further highlights the significant variations of measuring learning gain and the implications and issues around it.

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Appendix B: Survey Research Design Checklist (SRDC) Exemplar (Notes about the evidence-informed delivery of the phone interviews)

- The main questions (see below) will be sent to each participant at least ten working days in advance of the phone interview taking place. This will allow the participant to become familiarised with the scope of the interview.

Main questions	Prompts	Notes
1. How was the project embedded within your institution?	• Who were the key institutional stakeholders involved in the project? • Did the project receive buy-in from senior leadership in your institution?	Question explores institutional buy-in, an 'institutional embeddedness approach'[1] and the communications approach. <u>Examples of 'institutional embeddedness approach':</u> • Liaise with front-line teaching staff about the project; embed activity with course registration/enrolment and use the technique of 'implied compulsion'[1] (see HEFCE learning gain project at the University of East London[2] and the RAND report on learning gain by McGrath et al (2015)[3]). • Integrate activity into formalised co-curricular activities, such

[1]This theme was explored at the NMMLGP event that took place in April 2017 and further information can be found on the presentation slides used at the event. These slides were circulated to attendees but are not available as part of this report.

[2]Further information about the HEFCE learning gain pilot project at the University of East London can be found at https://webarchive.nationalarchives.gov.uk/20180103174249/http://www.hefce.ac.uk/lt/lg/projects/uni-eastlondon/

[3]The RAND report on learning gain can be accessed at https://www.rand.org/content/dam/rand/pubs/research_reports/RR900/RR996/RAND_RR996.pdf

		as timetabled workshops (see HEFCE learning gain pilot project at the University of Lincoln[4]), laboratory work, lectures and academic advisor meetings (see HEFCE learning gain pilot project at the University of Manchester[5]) or research methods sessions and discussions (see HEFCE learning gain pilot project at the University of Plymouth[6]). <u>Examples of stakeholders:</u> • Students. • Teaching staff, such as Deans, personal tutors and academics[1]. • Representatives from the Student Union (see HEFCE learning gain pilot project at the University of Manchester[5]).
2. To what extent was the project integrated into the programmes of study at your institution?	• Who were the key programme-level stakeholders?	As above.
3. How did you engage members of staff with the project in your	• How was the project promoted to staff in your institution? (e.g. the institutional briefing paper	Question explores project visibility, staff buy-in and the communications approach.

[4]Further information about the HEFCE learning gain pilot project at the University of Lincoln can be found at https://webarchive.nationalarchives.gov.uk/20180103174215/http://www.hefce.ac.uk/lt/lg/projects/uni-lincoln/

[5]Further information about the HEFCE learning gain pilot project at the University of Manchester can be found at https://webarchive.nationalarchives.gov.uk/20180103174250/http:/www.hefce.ac.uk/lt/lg/projects/uni-manchester/

[6]Further information about the HEFCE learning gain pilot project at the University of Plymouth can be found at https://webarchive.nationalarchives.gov.uk/20180103174004/http://www.hefce.ac.uk/lt/lg/projects/uni-plymouth/

institution?	to staff) • Did staff have access to the questions used in the survey?	
4. What support was available to members of staff throughout the project?	• Did your institution provide any training for staff (e.g. to help them understand the results and to offer advice to students)?	Question explores staff and institutional capacity. The institutional briefing paper to staff states that students have the opportunity to receive their responses by email so that they can share the results with a relevant contact in the institution.
5. How did you engage students with the project in your institution?	• Were any promotional resources used in your institution (e.g. the project poster)? If so, when were they released? • Were there any academic-led promotional activities?	Question explores project visibility, student engagement and the communications approach. <u>Examples:</u> • Student newsletters, VLEs, flyers, social media, mobile apps[1]. • Personalised communication (see HEFCE learning gain pilot project at the University of Manchester[5]).
6. What support was available to students throughout the project?	• Did students have any opportunity to discuss the project before participating? • Did students have any opportunity to discuss their results with staff or others? • How was confidentiality and	Question explores project visibility, student access to support/discussion with programme tutors and the wider communications approach. A key need for institutions that was identified in the NMMLGP focus group discussion was in 'providing support to students (enhancement potential)'[7].

[7]This was an outcome from focus groups that took place in June 2017 to determine the key needs for HEFCE, HEPs and participants (students).

	consent managed?	A key need for students that was identified in the NMMLGP focus group discussion was 'Ethics (confidentiality/consent & support)'[7].
7. How was the survey administered?	• How did students access the survey? (e.g. using an individualised link, an open link or both?) • When did the survey open and close in your institution? Was this timing optimal?	Question explores timing and 'survey fatigue'. <u>Examples:</u> • 'Survey fatigue' can be reduced by working with different departments to find out when students are being surveyed[1].
8. What were the incentives for students to participate?	• What impact, if any, did the incentives have on student participation? • What considerations, if any, did your institution give to the timing of the incentives throughout the project?	By participating in the NMMLGP project, respondents were entered into a free draw comprised of two prizes of £500 and five prizes of £100. A key need for students that was identified in the NMMLGP focus group discussion was 'Incentives (altruistic e.g. part of bigger project, charitable donation)'[7]. <u>Examples of additional incentives:</u> • Printing credit, drink vouchers and offering the results as incentives[1]. • The HEFCE learning gain project at the University of Plymouth[6] reported that a major incentive for participation was in emphasising to students the benefits of engaging with such activities as part of their programme. This includes using the outcomes from self-evaluation in goal setting and discussions with tutors to recognise strengths and areas for development.

9. How did you monitor student participation throughout the project?	• Were any approaches used to encourage participation while the project was open (e.g. reminders)? • Was there a response rate target? If so, who set the target?	<u>Examples:</u> • Reminders to non-completers, weekly response rate reports to staff and student representatives (see HEFCE learning gain pilot project at University of Lincoln[4]).
10. What follow-up communication did respondents receive as a consequence of participating (e.g. feedback)?	• Did respondents receive any follow-up communication if they partially completed the survey?	Question explores reporting and follow-up processes. A key need for students that was identified in the NMMLGP focus group discussion was 'instant feedback'[7].
11. How were the results of the project disseminated to key stakeholders in your institution?	• How was the survey data used? • Was the project analysed at different levels (e.g. at an individual level, for specific groups of students, at a programme level, at an institutional level)?	Question explores reporting, follow-up processes and communications channels with stakeholders. A key need for institutions that was identified in the NMMLGP focus group discussion was in 'getting good data (quantity & quality)'[7]. <u>Examples</u> • Dissemination events and workshops to engage key stakeholders, tailored reports for individual Schools, social media communication, representatives from the Student Union (see HEFCE learning gain pilot project at the University

		of Manchester[5]). • Seminars and webpages (see HEFCE learning gain pilot project at the University of Reading[8]).
12. Is there anything else you want to tell us about the process so far?		
13. Are there other key contacts in your institution that are involved in this project? If so, do you feel that they could contribute further to the process evaluation of this project?		

[8]Further information about the HEFCE learning gain pilot project at the University of Reading can be found at https://webarchive.nationalarchives.gov.uk/20180103174253/http://www.hefce.ac.uk/lt/lg/projects/uni-reading/

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Appendix C: Phase 1 Interview Schedule

Main questions	Prompts	Interviewer Notes
1. How was the project embedded within your institution?	• Who were the key institutional stakeholders involved in the project? • Did the project receive buy-in from senior leadership in your institution?	
2. To what extent was the project integrated into the programmes of study at your institution?	• Who were the key programme-level stakeholders?	
3. How did you engage members of staff with the project in your institution?	• How was the project promoted to staff in your institution? (e.g. the institutional briefing paper to staff) • Did staff have access to the questions used in the survey?	
4. What support was available to members of staff	• Did your institution provide any training for staff (e.g. to help them	

throughout the project?	understand the results and to offer advice to students)?	
5. How did you engage students with the project in your institution?	• Were any promotional resources used in your institution (e.g. the project poster)? If so, when were they released? • Were there any academic-led promotional activities?	
6. What support was available to students throughout the project?	• Did students have any opportunity to discuss the project before participating? • Did students have any opportunity to discuss their results with staff or others? • How was confidentiality and consent managed?	
7. How was the survey administered?	• How did students access the survey (e.g. using an individualised link, an open link or both)? • When did the survey open and close in your institution? Was this timing optimal?	

8. What were the incentives for students to participate?	• What impact, if any, did the incentives have on student participation? • What considerations, if any, did your institution give to the timing of the incentives throughout the project?	
9. How did you monitor student participation throughout the project?	• Were any approaches used to encourage participation while the project was open (e.g. reminders)? • Was there a response rate target? If so, who set the target?	
10. What follow-up communication did respondents receive as a consequence of participating (e.g. feedback)?	• Did respondents receive any follow-up communication if they partially completed the survey?	
11. How were the results of the project disseminated to key stakeholders in your institution?	• How was the survey data used? • Was the project analysed at different levels (e.g. at an individual level, for specific groups of students, at a programme level, at an	

	institutional level)?	
12. Is there anything else you want to tell us about the process so far?		
13. Are there other key contacts in your institution that are involved in this project? If so, do you feel that they could contribute further to the process evaluation of this project?		

Appendix D: Phase 2 Focus Group Schedule

Arrival	5 minutes

As students arrive, provide them with an information sheet and consent form and ask them to read through it and respond to any questions.

If you are happy to continue, please sign the consent forms. You may withdraw from today's session at any time. If you would like to withdraw your contribution to the research after today, please contact the research team, whose contact details are on the information sheet provided.

Feel free to enjoy the refreshments.

Introduction and purpose	5 minutes

Thank you for agreeing to participate in today's focus group; we really appreciate you giving up your time to share your thoughts with us.

My name is _____ and I will be facilitating the session today, this is my colleague ____ who will be taking notes and may ask some questions from time to time. We are both from Sheffield Hallam University, where we work as_____. We are conducting focus groups at a number of institutions on behalf of the Office for Students over the next month.

If you would you like to introduce yourselves to the group, please tell us your name, your course of study, and what level you are studying at.

Thank you. I will do my best to remember everyone's names.

The focus group will last about an hour and will be recorded. The aim of the focus group is to ascertain your understanding of the concept 'learning gain' and how you measure what you have learnt during your studies.

Once we have conducted all focus groups we will be writing a report on the findings for the Office for Students. The report will contain no personal data or information but we may use quotes to illustrate a particular point where applicable.

Ground rules	5 Minutes

Today's session aims to be interactive with a lot of group discussion and activities. Your views, thoughts and feelings will be crucial to the research, so we would ask that you share these freely with the research team. To allow conversation to flow more freely it is important to remember:

- Only one person speaks at a time and be respectful if someone else is talking
- Please avoid side conversations
- Everyone doesn't have to answer every single question, but we would like to hear from each of you today as the discussion progresses if you feel comfortable
- There are no "wrong answers" just different opinions. Say what is true for you, even if you're the only one who feels that way. Don't let the group sway you. But if you do change your mind, let us know.
- Let us know if you need a break. The bathrooms are *[location]*. No fire alarms are planned.
- Are there any further questions?

Awareness of learning gain — 10 minutes

We are going to start the discussion now.

We would like to gauge your awareness of the term learning gain.

Provide participants with post-it notes

Q. How On a scale of one to ten (one being the least aware, ten being the most aware). aware are you of the term learning gain?

Q. If you have heard of learning gain before, in what context have you heard about it?

Q. Would everyone agree that your awareness is low/high?

This is an example of some promotional material for a project your university participated in.

Direct question to level 5 and 6 students – Over the last three years your institution took part in a national pilot programme called the National Mixed Methods Learning Gain Project (NMMLGP). You will have been asked to complete an online test that will have taken about 20 minutes.

Q. Does anyone remember taking this test?

If they completed the test

Q. How many times did they complete the test?

Q. Do they remember anything else about the test?

Defining learning gain — 15 minutes

There are many definitions of learning gain. For example, it can be defined as the distance a student travels from one point in time to another.

With the person sitting next you on your right, please take a moment to discuss how you would define learning gain. Please write your definition/meaning down on the card provided.

Learning gain prompts – employment, thinking ability, subject knowledge, increasing confidence, professional knowledge, achieving goals, skills development

Q. Who would like to share their card with the group?

Q. Can you expand on why you wrote that?

Q. Who agrees with *[Participant A]*?

Q. Can anyone expand on what *[Participant A]* just said?

Q. Does anyone have a different perspective?

Repeat this until everyone has shared their own definition or added to that of someone else.

From this discussion could we say that learning gain is _____? *Seek consensus from the group and add in their feedback.*

Q. How important do you think this definition is, and why?

Collect everyone's cards

Measuring your learning 10 minutes

We are interested to know how you measure your learning/progress/development since you came to university and how you would demonstrate this to someone.

Q. How do you measure what you are learning or how you are developing?

Q. Apart from your grades/marks how do you measure what you are learning?

Q. How would you demonstrate your learning or progress to someone else (i.e. peer/tutor/future employer)?

From this discussion could we say that you measure your learning by _____? *Seek consensus from the group and add in their feedback.*

The government, policy makers, and university leaders are keen to demonstrate the value of higher education and the progress students make while studying. One suggestion has been to develop a measure of learning gain that higher education providers and students can use to show impact and learning.

Q. Why would a measure of learning gain be useful?

Q. How would you use a measure of learning gain?

Application of a learning gain measure 10 minutes

We are going to discuss some examples of learning gain measures that have been developed by different universities over the last few years. We are keen to know what you think of these. Imagine that all these learning gain activities happened outside your course and could take 20 to 45 minutes to complete.

Depending on time reduce the number of examples that are used

The first example, the National Mixed Methods Learning Gain Project, used a test to measure student learning gain over time. The test asked questions on critical thinking, problem solving, and about a student's engagement in their studies. Once the test was completed, each student would receive a score and the test would be repeated a number of times over the course of their studies. This would allow students to track their progress, and see how they had improved over time.

Show participants an example of the test.

Q. Why would you engage in this type of activity?

Q. If yes, why? If no, why?

Q. Would a measure of learning gain be useful to you?

Q. How would you use this type of measure?

The second example used a psychological questionnaire that assessed students' personal attitudes and beliefs in relation to: employment readiness, completing tasks and reaching goals, sense of self-worth, beliefs about intelligence and strategies to cope with challenges. The questionnaire would be completed three times over the course of a student's studies and examines the extent to which their time at university has made a difference to their personal attitudes and beliefs. Students would receive an individual report after completing each round of the questionnaire.

Q. Why would you engage in this type of activity?

Q. If yes, why? If no, why?

Q. Would a measure of learning gain be useful to you?

Q. How would you use this type of measure?

Only do the third example if there is time

The third example used a survey to understand how learning had developed over time and the strengths and weaknesses of students in relation to securing employment after studies. Students were sent a personalised online link and asked to complete a questionnaire about

their strengths and weaknesses in relation to employment and job opportunities. Questions asked revolved around self-management of learning experiences and deep thinking. For each survey completed, students received an online voucher of £5.

Q. Why would you engage in this type of activity?

Q. If yes, why? If no, why?

Q. Would a measure of learning gain be useful to you?

Q. How would you use this type of measure?

Incentives 5 minutes

Sometime institutions incentivise activities to encourage students to engage and participate. These can be in the form of cash, gift vouchers, credits, or prizes such as iPads or books. Incentives take many forms, from each participant receiving a small amount for engagement, to large lottery style prize draws where one student wins a large amount.

Q. How do incentives influence your decision to participate in something?

Q. What type of incentive is most likely to encourage you engage?

What next for learning gain? 5 minutes

If your university was going to develop a measure of learning gain, what would you like it to look like?

And how would you like it to be used?

Would you like government policy makers and universities to develop a measure that could be used to compare providers against each other, and could be used in league tables?

Closing 5 minutes

That is the end of our questions today, unless there is anything else that you would like to add?

Thank you for coming today and for sharing your thoughts, it has been very insightful and helpful for us.

Our contact details are on the forms we gave you at the beginning, so if you have any questions about today, please contact us.

Thank you again.