

Comparative Case Study

Impact Evaluation with Small Cohorts: Methodological Guidance (64–69)

Methodology Steps

Goodrick, D. (2014). *Comparative Case Studies, Methodological Briefs: Impact Evaluation 9*, UNICEF Office of Research, Florence. Available at https://www.unicef-irc.org/publications/pdf/brief_9_comparativecasestudies_eng.pdf (Open Access)

Case Study

Sheridan, K., Halverson, E., Litts, B., Brahms, L., Jacobs-Priebe, L. and Owens, T. (2014). Learning in the Making: A Comparative Case Study of Three Makerspaces. *Harvard Educational Review*, 84(4) 505–531. Available at <https://doi.org/10.17763/haer.84.4.brr34733723j648u> (No Open Access Version is available.)

<https://www.makersempire.com/wp-content/uploads/2018/02/Learning-in-the-Making-A-Comparative-Case-Study-of-Three-Makerspaces-Sheridan-14.pdf> (Open Access)

Fabricated Widening Participation Example

Barkat, S. (2019). Evaluating the impact of the Academic Enrichment Programme on widening access to selective universities: Application of the Theory of Change framework. *British Educational Research Journal*, 45(6) 1160–1185. Available at: <https://doi.org/10.1002/berj.3556> (No Open Access version is currently available.)

The fabricated example draws on a Theory of Change developed by Barkat (2019) to document an academic enrichment programme for Y12 students. All the details below, however, are fabricated and do not refer either to the intervention or its evaluation described in the paper.

In the table below, the ‘Case Study’ column breaks the case-study evaluation down into a series of methodological steps as described in the [Methodological Guidance](#). In the ‘Fabricated WP Example’ column, we apply the logic of these steps to the hypothetical evaluation of a fabricated widening-participation

intervention, to suggest how a Comparative Case Study approach to evaluation might unfold when applied to an intervention of this type. The nature of the ‘Small *n*’ approach means that there may be no single ‘correct’ way of applying this methodology. The example given should be considered illustrative rather than a definitive model.

Case Study	Fabricated WP Example
<p>Sheridan et al., 2014</p> <p>Outline of paper: This article brings together three case studies of ‘makerspaces’ (informal sites for creative production in art, science and engineering) within a US context to explore how they function as learning environments.</p>	<p>There are few published examples of Comparative Case Study approaches being applied to the evaluation of WP-focused interventions. The example below is a hypothetical model, used to suggest how this approach could be adapted for use in the evaluation of a WP intervention.</p> <p>The starting point for this discussion draws on a Theory of Change documented in Barkat 2019, but the discussion below is based on an entirely fabricated example case study.</p> <p>Outline of paper: The article discusses the development of a Theory of Change for an academic enrichment programme designed to develop disadvantaged young people’s academic aspirations and motivation, and improve attainment and HE progression.</p> <p>The Academic Enrichment Programme is a longitudinal engagement with students in Y12. It aims to raise Level 3 attainment for disadvantaged students by providing them with additional coaching and academic support.</p>
Step 1 – Clarify the key evaluation questions and the purpose of the evaluation	
<p>The key research questions are:</p> <ul style="list-style-type: none"> ● Who participates in these makerspaces? ● How and to what end are tools, materials and processes used in each makerspace? ● What are the arrangements for learning, teaching and collaborating in each space? 	<p>The evaluators were interested in the extent to which the inclusion of exam techniques/assessment strategy workshops in the academic enrichment programme had a causal relationship with higher Level 3 attainment outcomes.</p> <p>The key evaluation question is: Does a focus on assessment strategy and exam technique contribute to improved attainment outcomes?</p>

Step 2 – Identify initial propositions or theories, drawing on the theory of change	
<p>The evaluators drew on literature on learning environments to theoretically locate the makerspaces (508).</p> <p>Makerspaces operate as studios or informal educational environments supporting peer teaching, mentoring and coaching. This framing supports the alignment of makerspaces with communities of practice, in which members with a commitment to a common domain share knowledge and experience. This evidence encouraged the evaluators to explore the formation of and participation patterns in these specific maker communities (509).</p>	<p>The theory of change for the academic enrichment programme was informed by a focused literature review of the key factors contributing to a lower average rate of attainment among disadvantaged students than their more advantaged peers.</p> <p>The literature review identified several factors:</p> <ul style="list-style-type: none"> ● Schooling effects – schools in disadvantaged areas had fewer resources to support higher-achieving students and could not provide the same level of academic stretch and enhancement. ● Prevailing culture of attainment – some research suggested that the prevailing culture in schools with lower rates of overall attainment gives rise to expectations of more moderate outcomes for all pupils. ● More advantaged students attended schools with sufficient time and resources to induct students into the hidden curriculum – the often-unstated expectations and criteria on which higher attainment outcomes depend. <p>Accordingly, around half the time available in the academic enrichment programme was dedicated to supporting participants to develop the knowledge, strategies and skills needed to meet implicit assessment criteria and increase their attainment outcomes.</p>
Step 3 – Define the types of case that will be included and how the case study process will be conducted	
<p>The evaluators aimed to build a deep within-case understanding of each makerspace with a view to identifying commonalities and differences across the different sites (509).</p> <p>Purposive sampling (using the researchers’ judgement) was used to select the three case study sites, with the aim of including a diversity of participant cohorts, funding models and locations (510).</p>	<p>Evaluators compared the academic enrichment programme with two similar programmes:</p> <p>Programme A – a programme with a similar structure and objectives offered by a similar provider to similar target groups, but which did not include any assessment-related context</p> <p>Programme B – an academic enrichment programme that included a focus on assessment technique and exam strategy, but which was offered to a wider range of students, many of whom were classed as more advantaged.</p>

	<p>The two case studies were chosen purposively, as being broadly similar, except for one difference in content (A) and a difference in participant demographics (B).</p>
<p>Step 4 – Define how the evidence will be collected, analysed and synthesised within and across cases</p>	
<p>The data was collected over a year and comprised:</p> <ul style="list-style-type: none"> ● 150 hours of field observations ● Interviews with participants ● An analysis of web-based archives (including blogs and online community discussions) ● Video and photo documentation of projects in process and completed works (510). <p>The data collection process was adapted to each site and was informed by the availability of access. The triangulation of data sources provided a more comprehensive picture of participation in each of the makerspaces.</p> <p>The diversity of cases was seen as both a strength and limitation of the evaluation. Comparison was facilitated through broad descriptive categories (e.g. tools, space, activities). The evaluators acknowledged that this breadth reduced the nuance of the constructs they applied in analysis across the sites (511).</p> <p>Analysis was ongoing; data was transcribed, and case summary sheets were created.</p> <p>Findings from all sites were discussed collectively across the research team. Analytical categories were drawn from a priori concepts identified in the literature review (e.g. learning arrangements and the kinds of pedagogic activities observed). The resulting analysis included a focus on how each site functioned as a learning space and included detail on who participated, how tools, materials and processes were used, and how learning and collaboration were arranged (511).</p>	<p>The data was collected over the three-month duration of each programme. Evaluators drew on:</p> <ul style="list-style-type: none"> ● Programme documentation ● Observations of key sessions ● Interviews with participants ● Interviews with delivery staff <p>Triangulation was employed for each programme, with outcomes from the programme documentation review and observations used to construct the interview schedules.</p> <p>The review of the programme documentation confirmed that the programmes used similar underpinning methodologies (a mix of self-access resources and seminar-style workshops), had similar durations and were of similar intensity.</p> <p>A review of curriculum content and interviews with delivery staff confirmed that the academic level in each programme and the content were broadly comparable.</p> <p>The key outcome variable revealed that the overall increase in outcome versus predicted grade was substantially higher for participants in the academic enrichment programme and Programme B than for participants in Programme A.</p>

Step 5 – Consider and test alternative explanations for outcomes

This step was not reported in the case study article.

One alternative explanation for the difference in outcomes was that the programmes had different selection criteria and recruited students of different academic abilities.

An analysis of the case information for each participant (including prior attainment at Level 2 and predicted Level 3 grades) served to refute this alternative explanation, as consistency was found in prior attainment across participants in all three programmes.

Another alternative explanation for the outcome was that participants were selected based on prior attainment and this explained the higher rates of attainment for the case study programme and Programme B.

A counterfactual analysis of non-participating students with the same prior attainment levels in each of the participating schools demonstrated that, while the outcomes for Programme A showed no difference between matched participating and non-participating groups, attainment outcomes were elevated for the participating cohorts in the academic enrichment programme and Programme B. This strengthens the causal claims for participation in these programmes.

Similarly, a further alternative explanation focused on the use of predicted grades as the baseline against which outcomes were assessed. It was proposed that different schools used different prediction methodologies. This would suggest that predicted grades were a subjective indicator of potential rather than an objective one.

Interviews with assessing teachers at each of the participating schools revealed similar methodologies in predicting Level 3 grades and the use of similar sources of data. Moreover, students from each of the participating schools were included in all three programmes (with a bias to more

	<p>advantaged schools in programme B) placing some limits on the potential influence of schooling effect.</p>
<p>Step 6 – Report findings (Outcomes from this stage could feed back to Steps 3, 4 and/or 5 in an iterative process.)</p>	
<p>The evaluators found that all three makerspaces supported diverse learning arrangements (whether solo work, facilitated group work or group projects). The article includes a matrix outlining commonalities and differences between the sites (522).</p> <p>The report focused specifically on electronic circuit making to document differences between the spaces in terms of resources, levels of expertise and outputs.</p> <p>The evaluators conclude that the makerspaces incorporate a multi-disciplinary ethos that fuels engagement and innovation (526), thereby countering the often rigid disciplinary boundaries that characterise formal education, and encouraging innovation. They also include a diversity of learning arrangements, creating a hybrid of participatory cultures and more formal pedagogic structures.</p> <p>The conclusion of the article envisions an iterative process, identifying similarities and differences that could be fed back into further research (529). This would require further iterations of the research process, as different cases or types of case study are selected (Step 3) and/or different methodological approaches are applied (Step 4).</p>	<p>The evaluators found raised attainment (relative to predicted grades) in the academic enrichment programme and Programme B, while outcomes for Programme A were consistent with the baseline in each of the participating schools.</p> <p>The key variable was the inclusion of dedicated coaching in assessment strategies and exam techniques in two programmes, but not in Programme A. The lower outcome rates in Programme A strengthened the causal claim for the relationship between such coaching and improved attainment outcomes.</p> <p>Further analysis of outcomes for disadvantaged versus more advantaged students in Programme B revealed a more significant rate of increase for disadvantaged students. Although the number of participants is not sufficient to support any definitive conclusion, this finding encouraged a new iteration of the research, which focused on advantages and disadvantages as key variables, in order to explore the schooling effect.</p>
<p>Comment</p>	
<p>This case study approach demonstrates the methodology of setting out a series of evaluation questions and demonstrating how the selection of cases was informed and justified by theorising the domain. It explored and justified the data collection and analytical approaches adopted. This particular example excludes any consideration of alternative explanations for outcomes but does demonstrate how a comparison of cases was conducted. Furthermore, it</p>	<p>The evaluators concluded that this comparative case study approach enabled them to unpick and compare the key causal factors leading to the desired outcomes of the programme. The selection of comparative cases enabled evaluators to identify the presence or absence of coaching in assessment strategy and exam techniques as a key causal factor in the relationship between programmes and outcomes.</p>

reaches a conclusion on the terms it sets out, but leaves space for further iteration and development of the core themes.	
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