Contribution Analysis Case Study

Impact Evaluation with Small Cohorts: Methodological Guidance (45–48)

Methodology Steps

Mayne, J. (2008). *Contribution Analysis: An approach to exploring cause and effect.* Brief 16, Institutional Learning and Change (ILAC) Initiative
Available at https://nonprofitbuilder.org/storage/377/Contribution-analysis-An-approach-to-exploring-cause-and-effect-ILAC.pdf
(Open Access)

Case Study
Delahais, T. & Toulemonde, J. (2012). Applying contribution analysis: Lessons from five years of practice. *Evaluation*, 18(3) 281–293.
https://doi.org/10.1177/1356389012450810
Available at https://www.researchgate.net/publication/254091561_Applying_contribution_analysis_Lessons_from_five_years_of_practice
(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 WP 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 a hypothetical evaluation of a fabricated widening participation intervention, to suggest how a Contribution Analysis approach to evaluation might unfold when applied to an intervention of this type. The nature of this '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

Delahais and Toulemonde 2012 Outline of paper: In this article, the authors reflect on a series of five EU policy evaluations conducted using a CA approach. This is a methodological paper which focuses on the implementation of the approach as much as the outcomes of the evaluations. Key evaluation question: Does policy intervention X lead to intended outcome Y? Page references below are to the published version of the paper.	There are few published examples of the application of CA to the evaluation of WP-focused interventions. The example below is a hypothetical model suggesting how this approach could be used in the evaluation of a WP intervention. 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. Outline of paper: The article discusses the development of a theory of change for an academic enrichment programme designed to develop young people's academic aspirations, motivation, and improve attainment and HE progression. Key evaluation question: Does the academic enrichment programme promote academic attainment and increase entry rates to Russell Group universities for disadvantaged young people?
Step 1 - Set out the attribution problem to be addressed	
Delahais and Toulemonde describe how they reframed the policy interventions of interest in order to 'concentrate on a few cause-and-effect questions' (282). They suggest that, where possible, they attempt to limit the number of these causal questions to narrow their focus and definition as much as possible (282). In the context of the article, these problems relate to the relationship between policy interventions and policy outcomes. The evaluators note, however, that CA analysis is time-consuming and resource-intensive and that, consequently, they tend to limit the application of CA approaches to particularly challenging evaluation questions, using other conventional theory-based approaches elsewhere.	The Academic Enrichment Programme is a longitudinal engagement with Y12 students. It has two core aims: 1) It aims to raise Level 3 attainment for disadvantaged students by increasing their motivation. In turn, this will increase their application potential for selective higher-education institutions. 2) It aims to increase participants' first-hand experience of HE-level academic learning to increase their sense of 'fit' with selective universities. This, in turn, will increase their confidence in being able to make a successful application and, thus, the likelihood of their making an application. A successful programme outcome would result in:

	● participants achieving higher Level 3 outcomes than their non-participating peers and achieving the grades required to meet the entry requirements of selective universities ● participants increasing their sense of 'fit' with selective institutions and this attitudinal change being translated into increased confidence and, in turn, increased likelihood of applying to one or more selective universities.
Step 2 - Develop the Theory of Change and identify associated risks	
Delahais and Toulemonde detail the process of building a detailed logic model to describe the key causal chains linking the intervention to the desired outcome. The logic model is informed by reviews of the literature and other documents, exploratory stakeholder interviews and case studies (284). Typically, these models consist of chains of change steps and the causal links between them. Changes in one causal chain often impact the outcomes of other causal processes. Theories of Change often, therefore, describe multiple chains operating in parallel and interacting with one another. A crucial part of the process is the gathering of rival explanations to extend and challenge the model's causal logic.	An initial Theory of Change was developed based on a reading of programme documentation, and a literature review of the challenges faced by disadvantaged students when considering or transitioning into a selective institution. The Theory of Change described two main causal elements: <u>Mini-university course</u> This strand consists of carefully structured workshops intended to increase the participants' academic capability and enable them to develop the skills and strategies required to maximise their assessment outcomes. These are provided as part of a residential summer school and delivered in the form of authentic university-level teaching, including pre-reading, lecture and seminar formats. <u>Building knowledge, understanding and confidence (residential event)</u> The residential event is designed to give participants the experience of living and learning in a 'real' student environment. This participation in a mini-university course demystifies universities, making them seem realistic and attainable to participants.
Step 3 - Gather existing evidence on the Theory of Change	

Having established the logic model and mapped the hypothesised causal chains, the research process focuses on collecting additional evidence to support the logic and operation of these causal changes and any rival explanations. The evaluation team develops a data collection work plan and uses a range of tools to answer each evaluation question. These varied information sources and data collection approaches may include in-depth case studies, interviews with policy-makers and experts and discussions with intervention participants. This comprehensive data collection approach supports triangulation and aims to ensure sufficient evidence to support and justify each of the different stages in the causal chain (285). Detailed case studies are used to trace the causal chain links in practice. At each stage, the evidence is assessed to understand whether it confirms or refutes the components of the causal chain. Delahais and Toulemonde caution against the risk of positive bias – seeking evidence that confirms the model at the expense of evidence that challenges it. They attempt to mitigate this risk by asking experts who are not directly involved in the evaluation to assess the model and encouraging them to systematically challenge the evidence.	The preliminary Theory of Change was enhanced and extended through an intensive data collection phase, which included: ● Discussion groups with delivery practitioners ● Discussion group with educational researchers ● Discussion group with psychology researchers ● Discussion group with teaching staff from participating schools ● A literature review focusing on the relationship between academic confidence and motivation ● A literature review of research into the academic experience of disadvantaged students in HE ● Focus groups with current students from disadvantaged backgrounds ● Focus group with current programme participants. This resulted in the formulation of the following hypothetical causal chain: Attendance at a summer residential mini-university course includes pre-reading, lectures, a seminar and an assignment. This first-hand experience of university teaching: A) demystifies university-level learning, enabling participants to see how it connects to their current educational experience, thereby making them feel more confident about applying to a selective institution B) demonstrates to participants that they already have many of the skills and much of the knowledge required to successfully engage with university-level teaching C) demonstrates how the HE curriculum extends and enhances the Level 3 curriculum.
Step 4 Assemble and assess the contribution story, and challenges to it	
The theory of change is mapped into a ‘contribution story’ table. Delahais and Toulemonde suggest that this is the core step where contribution analysis adds greatest value. Each link in the causal chain is unpacked as a	Hypothetical contribution story table:

‘causal claim’, including documentary evidence for and against the impact of that stage in intervention outcomes and whether it confirms or refutes the contribution. Where possible, each link is supplemented by a description of up to three other contributing factors or conditions assumed to have an impact on outcomes (287). In addition, each link in the causal chain is ranked in terms of its influence on intervention outcomes. The evidence for impact (which supports this ranking decision) is also rated in terms of its strength. A record is made of whether its causal claim is reinforced by triangulation with other data, and its relationship to the outcome, and whether it makes a direct contribution or operates as a condition for other causal factors to come into play. For an example of this kind of contribution story, see Table 2 – Evidence Analysis Table (Delahais & Toulemonde 2012: 288).	The CA process is often complex and can involve multiple causal chains with a range of different links. To explore a hypothetical example, the fabricated analysis is limited to a single causal chain. Causal chain A): Participation in the mini-university course demystifies HE level learning and creates the preconditions that make an application to a selective university more likely. Discussion groups with educational researchers are triangulated with the outcomes of discussion groups with teachers in participating schools. This confirms the initial programme assumption that many participants (an estimated 60%) have no firm concept of what HE teaching is like. This assumption is further strengthened by focus groups with participants and current students that offer further confirmation that university-level learning and teaching were seen as remote and very different from the Level 3 learning experience. Evidence: This is primary evidence, considered fairly strong, and is a precondition to the intended contribution (i.e. it confirms the need to demystify HE-level learning, to which the programme can contribute). There is less strong evidence from the literature that this lack of a firm concept of HE learning deters students from applying to HE. Triangulation with focus group outcomes for current students and participants suggests only weakly that the lack of a firm concept of HE learning is a deterrent in the application process. Participants in the focus group reported that, although they were uncertain and had some worries about the shift to university-level teaching, they imagined they ‘would somehow cope’ and that this alone would not deter them from applying.

	Indeed, the research literature suggests that other factors, such as a lack of family experience of HE or the fear of debt are likely to be stronger deterrents to application. Evidence: This is secondary evidence, considered to be moderately strong, that refutes the assumption of a direct relationship between a firm concept of HE academic learning and the decision to apply to a selective university. This weakens the claim that the mini-university course contributes to the desired outcome (that the participant makes an application to a selective institution). Contribution Claim: The mini-university course increases familiarity with HE level learning and removes a possible weak deterrent to HE application (a lack of familiarity with HE learning). There is strong evidence that a majority of participants lack a clear concept of HE learning prior to the intervention and that the intervention helps them to develop a clearer concept. However, there is no strong evidence of a causal relationship between a strong HE-learning concept and the decision to apply. There is relatively strong evidence that other factors are more likely to deter an application. In this respect, the mini-university course does not, therefore, make a significant contribution to participants' decision-making in making an HE application.
Step 5 - Seek out additional evidence	
This step is not directly discussed in the article. Instead, the relevant process is incorporated into Step 6.	The draft contribution story for the programme as a whole (which comprises a number of different contribution claims) is presented to a wide range of external stakeholders, including senior leadership teams, a group of social mobility researchers, a network of Level 3 teachers and a group of non-participating Level 3 students. This stage of additional gathering broadly confirms and strengthens the contribution claim discussed above and enables the evaluators to add more detail about the relationship between increasing understanding of the

	nature of HE-level learning and confidence about the ability to fit into the environment of a selective institution. This represents an influencing link between causal chain A (increasing participants' awareness of what HE level study is like) and other causal chains, such as increasing participants' confidence in their ability to fit into a selective institution.
Step 6 - Revise and strengthen the contribution story	
The above stages result in a draft contribution story that covers all the causal factors discussed and elaborated in the logic model/Theory of change. This is then reviewed by a range of stakeholder groups, including an expert external to the evaluation, as part of an open and critical discussion. Stakeholders are invited to challenge different aspects of the contribution story. This process can result in the further confirmation or refutation of the contribution made by different causal components; it can also throw up additional evidence and data about the model or the causal contribution claims. These can then be incorporated into the model, helping to strengthen and expand it. New causal chains may also emerge, which have to be iteratively assessed in a new round of activity (Steps 2–4). This process leads to the final reporting, and Delahais and Toulemonde suggest that their 'usual approach to finalising an evaluation was to present each conclusion, and the main arguments supporting it, in a section of the main report' (289).	The final report mapped 15 key elements in the causal chain between the mini-university intervention and the desired outcomes. Strong evidence from stakeholder dialogue and the research literature was found for seven of these, indicating a significant contribution to the programme outcomes. Evidence for the remaining eight elements was less strong, indicating a weaker contribution. For five of these weaker elements, however, evidence was found they had a relatively strong influence on other causal elements, thereby increasing their overall contribution.
Conclusion	
The authors suggest that contribution analysis adds most value to evaluation in terms of the drafting of the contribution story but acknowledge the challenge of ensuring that all contribution claims are based on robust, traceable and credible evidence. They observe that CA can generate a deep understanding of the causal and contribution factors that support (or counter) intended intervention outcomes.	By breaking the intervention down into its component elements and configuring these as causal chains, including consideration of rival explanations and the strength of the evidence underpinning each link, evaluators were able to take a schematic approach to understanding the contribution made by different elements of the programme to the desired outcomes.

	They identified seven programme components that made a strong contribution to these outcomes, and a number of other elements for which the causal claims were weaker – including three for which there was no evidence of a causal relationship. These outcomes enabled delivery practitioners to reconfigure the programme by directing more resources to the most impactful components and removing components for which there was insufficient evidence of impact.