

Implementing an Experimental Design Methodology: Practical Issues for Evaluators

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Abstract

An experimental design method was used for the first time by a New Zealand government department to evaluate the outcomes of a work experience programme called Community Taskforce (CTF). The evaluation involved randomly assigning 1393 job seekers into a Control group and the same number into an Exposure group. The two samples were drawn from eligible job seekers (registered as unemployed for at least 13 weeks) and proportionately stratified by ethnicity, age and gender. Control group members were prevented from being referred to CTF, while all Exposure group members were to at least be considered for placement on the programme.

Problems occurred both in maintaining the integrity of the Control group as well as in ensuring Exposure group members were exposed to the programme. At the end of the 10-month study period, 11 job seekers from the Control group had participated in the programme and only 63 of the Exposure group had been on the programme.

This paper focuses on the implementation issues that arose during the study period.

Introduction

The expectation that unemployed job seekers should participate in organised activities, including unpaid community work, was a key part of the New Zealand Government's Employment Strategy, implemented in 1997. As a forerunner to this strategy, a work experience programme called Community Taskforce (CTF) was expanded.¹ The CTF programme had two main objectives:

1. to move job seekers closer to employment by providing them with the opportunity to gain unpaid work experience in a supportive environment; and
2. to enable sponsors to complete projects of benefit to the community or environment that could not otherwise be done.

An outcomes evaluation of the CTF programme was completed in April 1999. A key research question was whether the use of the expanded CTF programme affected employment outcomes.

Experimental Design Method

An experimental design was chosen to measure the outcomes associated with participation in CTF. This was the first time that this approach had been used in measuring the employment outcomes of a New Zealand labour market programme. Previously, evaluations had relied on quasi-experimental designs to measure outcomes. The major criticism of quasi-experimental designs is that they cannot control for selection bias as well as experimental methods, in that comparison groups can only be matched by variables that are known to the research². In particular, it is not possible to control for factors such as the motivation to find work.

This was considered particularly important for the CTF evaluation as frontline staff had a great deal of discretion over which eligible job seekers were referred to the programme. Moreover, community organisations also had a final say over which of the referred job seekers participated in CTF. The

¹ The CTF programme was administered by the New Zealand Employment Service (NZES) until 30 September 1998. From 1 October 1998, NZES and another government department, Income Support, were integrated into a new department, Work and Income New Zealand, and CTF was replaced with the Community Work programme.

² **Silver**, Julian (1998) 'Evaluating Employment Interventions: Choosing the Appropriate Method', in *What have we learned and where to next? A review of evaluations of employment programmes and interventions 1992 – 1997*, (1998 draft) by Diane Anderson), LMPG, Department of Labour, Wellington

experimental methodology was considered to be more robust in this respect, in that participants could be randomly assigned into each group prior to the referral stage. The design would ensure that differences between participants (both those that could and could not be measured) would be distributed with equal probability into each group. Therefore any selection bias that may have occurred during the selection process would be countered by the presence of eligible job seekers in the Exposure group that did not participate.

From an ethical perspective the random selection of job seekers into a Control group would effectively deny them access to the CTF programme for the duration of the study, irrespective of their suitability. This might suggest that Control group members are more disadvantaged in terms of receiving appropriate assistance than other job seekers. However, this was not thought to be a significant issue for this evaluation since there are a number of alternative programmes which members of the Control group were able to participate in. In addition, there were a limited number of CTF placements available relative to those eligible. Therefore it would be expected that only a small proportion of eligible job seekers would have participated in CTF in the absence of the Control group.

The practical considerations present far more serious issues for the effective implementation of a Control/Exposure methodology. Unlike quasi-experimental design, experimental design requires active intervention in the operation of the programme, which poses high demands in terms of project management to ensure that the experimental design is not violated in the field. It is these issues that are the focus of the present paper. The following discussion outlines the design of the Control and Exposure group method, its implementation and the subsequent problems encountered during the study period.

Design of the Control and Exposure Groups

The methodology involved the selection of two groups of eligible job seekers: a Control and an Exposure group. The Control group would be prevented from participating in CTF whilst the Exposure would be at least *considered* for a CTF placement.

Both groups were selected from the population of job seekers eligible for CTF as at the beginning of November 1997. Aside from their assignment to the Control and Exposure groups, these people were to be treated the same as other job seekers. They would continue to receive their benefits, participate in other labour market programmes, search for jobs and leave the register if they found employment.

Table 1: Description of the Control and Exposure group design

All eligible for CTF (i.e. 13+ weeks registered unemployed)		
Allowed to participate in other labour market programmes		
Control group (n = 1,394)	Exposure group (n = 1,394)	Not selected for Control or Exposure groups
Not allowed to participate in CTF	Allowed to participate in CTF	
Control group drawn from eligible job seekers	Exposure group drawn from eligible job seekers ↓↓ Frontline staff screening <i>All those in the Exposure group have to be considered for CTF at this point</i> ↓↓ Sponsor screening ↓↓ CTF place	Eligible, but not selected to participate in the Control or Exposure groups ↓↓ Frontline staff screening <i>May or may not considered for CTF</i> ↓↓ Sponsor screening ↓↓ CTF place
Employment and training outcomes all members are monitored as part of the experimental design		Outcomes not monitored as part of the experimental design

Table 1 summarises the design of the Control and Exposure groups. Participants were drawn from the eligible job seekers (registered as unemployed for at least 13 weeks) and proportionately stratified by ethnicity, age and gender, to have the same make-up as the total population of eligible CTF job seekers. The Control and Exposure groups were maintained for 10 months from mid-November 1997 to mid-September 1998. This time frame was considered sufficient to allow for all Exposure group members to go through the

process of being considered for CTF, selected for a project, completing that project and achieving an outcome.

Implementation of the Control and Exposure Groups

A short report was sent to all NZES Centre Managers explaining the evaluation method. Managers were asked to inform frontline staff that no one from the Control group could participate in CTF, and that they needed to *consider* all those in the Exposure group for CTF. Each Centre was emailed a list of job seekers from their area *who were to be considered* for CTF. Staff were not told who was in the Control group. However, an 'attention message' appeared on the computer screen when they opened a file for a Control group member, which warned against referring that person to CTF.

Problems arose both in maintaining the integrity of the Control group and in ensuring members of the Exposure group were considered for a CTF placement. The difficulty of maintaining the Control group was identified early on in the study. The Control group was monitored daily for the first two weeks and once a week for a short time thereafter. This monitoring showed that a small number of job seekers in the Control group were being selected for CTF, despite directives from National Office that frontline staff should not allow them to participate.

The problem was compounded by the change from one database system to another during the early period of the study, which raised two problems with the 'attention messages'. The first was that the transferral of the 'attention message' to the new database was unsuccessful in certain instances. Secondly, there was a problem with the design of the 'attention message' box. Whilst the staff member was made aware of an attention message, the content of that message was not automatically shown. Unless the staff member specifically opened the attention message they would not be aware that the job seeker was part of the Control group.

At the end of the study period, 11 of the 1393 job seekers in the Control group had participated in CTF. It is not known how many others were considered for CTF but did not participate.

As all Exposure group members were to have been *considered* for CTF it was expected that the rate of participation would have been higher than for the general population of eligible job seekers. However, at the end of the study period, only 65 of the 1393 in the Exposure group had been on CTF, a participation rate that was significantly lower than that for all eligible job seekers over the study period. This suggested that membership in the Exposure group had actually decreased the probability of participation in the programme, rather than enhancing it.

To further understand the reasons for the low numbers of CTF participants in the Exposure group, a telephone survey was conducted with 31 Centre Managers and frontline staff. The aim of this survey was to find out how staff had dealt with Exposure group members in their area. The survey included a range of

Centres (rural/urban, small/large) throughout the country. This survey found that there were two factors that greatly reduced the probability of Exposure group members being considered for CTF.

1. The most significant issue was that the majority of Centres (20 of the 31) did not treat the Exposure group differently from other people eligible for CTF. Of particular concern was that eight of the surveyed Centres said they did not know they had any Exposure group members at their Centre. This was especially common amongst larger Centres with a high staff turnover. Those who were aware of the Exposure group tended to consider it to be “low priority” and had made little attempt to actively consider Exposure group members for CTF throughout the study period. As one Centre Manager commented:

When the research started I made sure all job-seeking staff got a copy of the letter. But I don't think the frontline staff were consistent in considering Exposure participants. Some of CTF participants got on to the programme through their own initiative. It's just another process staff had to consider. It was not foremost in their minds [just] an extra task that frontline staff had to do.

Six Centres (two urban and four smaller Centres) were proactive in the way they dealt with the Exposure group over the study period. Two of the smaller Centres printed out a list of those in the group. Because of their small size, staff were well aware of those who were in the Exposure group and all those on the list were considered. Two larger Centres organised group seminars for Exposure group members. In both cases, one person was responsible for CTF placements. Letters were sent to Exposure group members calling them in for a seminar. At the end of the seminar, participants were asked for a commitment to go on to CTF. From one Centre's point of view, this group approach worked well, as it saved time for staff. However, the other Centre was less than diplomatic in the way it 'marketed' the seminars. Participants were told they were part of an Exposure group and told they had to come to a seminar. The staff member at this Centre said there had been some very angry people at the seminar. From her recollection, only one person agreed to do CTF.

2. The second factor that reduced the probability of Exposure group members being considered for CTF was that there were not many suitable projects in smaller Centres. One Centre experienced a boycott of CTF (related to the introduction of mandatory participation in organised activities such as community work) which greatly restricted the number of CTF placements available. In areas where CTF projects were not abundant, staff argued that it was more important to match the most suitable job seeker to CTF projects rather than to consider just those in the Exposure group.

Lessons Learnt

There are lessons to be drawn from our experiences of implementing the Control and Exposure groups for the evaluation of CTF. The over-arching factors are the need to have adequate resources to implement and maintain an experimental design throughout the study period and the recognition that frontline staff play a major role in determining the success of an experimental design. Both the resource issue and frontline ‘buy-in’ were pivotal in the failure to maintain the integrity of the Control group and in ensuring that all Exposure group members were considered for CTF.

Ideally, a member of the research team would have met with staff from each Centre to discuss the evaluation methods and talk through any issues prior to implementation. Ongoing personal contact with frontline staff throughout the study period was needed to maintain awareness of the evaluation and to deal with issues as they arose.

Ongoing communication with staff would have provided early warning of the issues encountered with maintenance of the Control Group. At first, the appearance of only 11 (out of 1393) job seekers that went on CTF suggested that the Control group had remained largely intact. However, in the absence of experimental design, the number of job seekers that would have participated in CTF in either the Control or Exposure group would have been approximately 78. Therefore the 11 CTF participants severely undermined the integrity of the Control group.

The experimental design operates within an active business environment subject to unpredicted changes that may adversely affect the evaluation design. For this reason, consideration should always be given to the wider context within which the evaluation is being conducted. The change from one operational database to another during the study period and the consequent disruption to the attention messages is a case in point. Better planning, communication with the rest of the business and access to more human resources may have minimised the disruption encountered.

The research team needed to more clearly explain to staff how the Exposure group was to have been dealt with. Survey evidence indicated that Centres varied greatly in the way they approached the Exposure group. Some Centres made no attempt to differentiate between Exposure group members and other eligible job seekers. Other Centres called all Exposure group members in and told them they had to go on CTF. As a result, we were not confident that the Exposure group was indeed ‘exposed’ in the way it was intended. The literature also strongly warns against the implementation of experimental design that is subject to the possibility of subversion by frontline staff.³ The need to treat the Exposure group differently from other eligible job seekers clearly illustrates the reality of this risk.

³ Boruch, R. F., (1997), *Randomized experiments for planning and evaluation*, Applied Social Research Methods Series, Vol 44, Sage publication, Thousand Oaks.

In hindsight, the research team should also have taken into consideration the organisational culture that operated within NZES, in particular the flexible and autonomous way in which frontline staff did their job. This culture was evident in the selection criteria used by frontline staff to select suitable job seekers, which conflicted with the researchers' criteria that Exposure group members be considered before any other eligible job seekers.

Conclusion

The underlying principle of the design was that the Control and Exposure groups would be selected before any exposure to the CTF process. The Control group was thought 'easy' to implement in that job seekers were simply denied access to the programme. This was justified on ethical grounds in that the limited number of CTF projects meant only a small proportion of job seekers would have gone on CTF if they had not been part of the Control group. However, this limited number of CTF placements meant that in theory if the treatment group was treated similarly to other eligible job seekers, only a small proportion would have gone through to CTF. Thus, the large number of non-participants in the Exposure group would have swamped any treatment effect. The response in the design was to treat Exposure group members differently from other eligible job seekers - each person in the Exposure group had to be considered at least once for CTF by a frontline staff member. Although attractive in theory, the idea of exposure was found to be fraught with problems when put into the field.

The success of experimental design lies in the adequate resources available during its implementation and the quality of the relationship with frontline staff involved in the field experiment. Given the realities of evaluation, particularly the tight resources available to be devoted to a single project, an experiential design is best implemented on a moderate scale, encompassing only as many Centres that can be adequately monitored by the research team.