

Creative & Credible

QUANTITATIVE EVALUATION

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Even the smallest scale project evaluation involves some kind of monitoring. The purpose of this is to document project delivery, usually recording the numbers taking part, the settings where the activities took place, the types of activity offered, and the outputs from the activity, including creative outputs such as artworks, music and performance. This often involves some form of quantitative reporting of numerical data in tables, charts and graphs. In this document we outline the key issues to consider when undertaking quantitative evaluation of arts and health projects.

Issues in routine evaluation

In routine evaluation, data are usually collected at the end of the project using simple tools such as closed questions on feedback forms. This is a useful way of describing certain project impacts, for example, the proportions of participants who, at the end of a project, rated it highly or poorly or reported a positive impact on wellbeing. This information can be useful in capturing the views of a large numbers of participants about an activity. However, there are several limitations of this kind of end of project data. They are essentially descriptive and cannot tell us much about whether the project actually had a measurable effect. Further, they may be biased towards those who completed the project, overlooking the experiences of those who dropped out or did not successfully complete. Evaluators need to consider the effect of biases created by sampling as well as those that might result from the process of data collection, such as participants being unwilling to give negative feedback. The design and administration of feedback forms as well as monitoring and evaluation questionnaires requires careful attention in order to reduce these biases. It is important to capture feedback from as wide a range of participants as possible and it may also be beneficial to ensure that participants complete questionnaires in conditions of privacy and anonymity.

Pre and Post Project Assessment Approaches

Some evaluations seek to assess whether project activities lead to identified outcomes. This entails showing an effect of the project using pre and post data. Project outcomes, as distinct from outputs, include changes in health and wellbeing. They are usually measured at the individual level, but outcomes can also be collective, such as changes in organisational

policies. Individual outcomes include increases in self esteem or wellbeing, or reductions in depression or anxiety. Outcomes also include clinical changes relating to specific conditions.

Validated scales

Outcomes measurement usually involves the use of validated scales. These have been developed by researchers to ensure that they are suitable for use with specified populations and for identified outcomes. A commonly used example The Warwick-Edinburgh Mental Well-being Scale (Tennant et al. 2007). A great number of scales exist although few have been specifically designed with arts and health in mind. The use of a poorly suited or insensitive outcome measure is likely to fail to capture the effects of an intervention and can produce misleading information.

Validated scales are sometimes used to assess distance travelled by individuals as they progress through a programme or along a journey. They are also used with larger samples to show changes across the whole group or in sub groups that might be attributable to an intervention. When assessing the impact of an activity or intervention, the use of validated scales increases reliability of the data and also allows the project outcomes to be compared with those of similar projects elsewhere.

Randomised Control Trials

Even the most well organised outcomes evaluation may not show that changes are attributable to an intervention. The randomised control trial (RCT) is widely regarded as the most valid and reliable way to establish effects of interventions. RCTs are increasingly undertaken in arts and health. They involve pre and post project assessment, ideally of a representative sample drawn from a clearly identified study population. They are useful for evaluating well differentiated or standardised interventions that can be reproduced in different settings. They depend on the availability of suitable, validated outcome measures. They also require participants to be randomly assigned to either intervention or control groups. Randomised trials are rarely undertaken by lone researchers or evaluators. They are more likely to be undertaken by teams as they require a complex mix of skills including research design, data collection and statistical analysis as well as project

management.

Managing Quantitative Evaluation

Outcomes measurement is a challenging task and for those managing it a number of considerations come into play. A carefully planned evaluation design is needed that pays close attention to sampling and includes reliable measurement of the key indicators at baseline and management of follow up data collection. Collecting baseline data from participants before the project has can be useful in itself as it reveals the characteristics of participants. However, post project data are needed to show project effects. Participants need to be tracked so that the end of project data can be meaningfully compared with those from the pre project stage. If there is a high level of drop out, or participants come and go throughout the project, as is often the case in arts and health, then the available matched pre and post data might be very limited even if the project started with a good number of participants. Addressing these challenges of sampling, data management and ensuring confidentiality that may stretch the capacity of smaller arts and health projects.

Quantitative Data Analysis

Quantitative data need to be gathered and carefully entered into the appropriate document, spreadsheet or data analysis software. Quantitative data analysis usually takes place after all the data have been gathered. Collation and interpretation of this information need not be a complex process, but should provide an accurate interpretation of the data. It is at this stage that you aim to reach some conclusions about the impact of the project and identify learning that can be shared with the project stakeholders and others.

There are different procedures for analysing quantitative and qualitative data. For quantitative data descriptive statistics are used to describe the numbers and patterns observed using totals, frequencies, ranges and averages. Quantitative data should be put into a spreadsheet and coded so that all of the data is in number form. Simple Excel formulae can then be used to make sense of the data. If your analysis needs to go beyond descriptive statistics then it is recommended that you seek advice of someone with specialist knowledge of data analysis and statistics.

Things to consider

- The level of data analysis should be appropriate to the data gathered. As a general guide, analysis should be kept to a basic level and the results interpreted with caution, particularly where a change is observed (e.g. a change in participants' wellbeing scores on a validated scale between two points in time).
- All data collected as part of the evaluation should be included in the analysis. This will help to reduce bias and improve the validity of the evaluation findings.
- It is important to consider response rates and missing data. Has appropriate action been taken to ensure a healthy response rate and that missing data are kept to a

minimum?

- If a significant amount of data have been gathered or the project team feels that there is an opportunity for more in-depth analysis, then an academic partner should be consulted, as they will have the necessary expertise to analyse the data more fully.
- It is recommended that the evaluator asks a peer (this could be a fellow team member) to look over their analysis and to verify their interpretations of the data. This will help to reduce bias and improve the credibility of the findings.

Conclusion

This brief introduction outlines basic procedures for quantitative monitoring and evaluation. However, if you are planning to undertake formal outcomes assessment then it is recommended that project evaluators seek support from advisors including academic researchers and statisticians who can advise on all aspects of the evaluation process.

References

Tennant, R., Hiller, L., Fishwick, R., Platt, P., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007) The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation, *Health and Quality of Life Outcome*; 5:63. Warwick Medical School. doi:10.1186/1477-7252-5-63



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