

Managing the Data Lifecycle for Research (Cost-)Effectiveness

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KEY IMPLICATIONS

1. Significant resources have been devoted to NIE's educational research agenda; these resources could be amplified through fostering secondary use of research data
2. Secondary use of research data requires proper planning (before project), management (during project) and archiving (after project).
3. Establishing a research data management centre with long-term plans, funding and training of researchers would lengthen the life span of research data, enhance cost-effectiveness of educational research and align NIE with international standards.

BACKGROUND

It is a truism of educational research that almost all data are seriously under-analysed; often the original researcher will explore only a fraction of the potential of data collected. An increasing number of researchers and institutes are encouraging the archiving and sharing of research data.

FOCUS OF STUDY

In light of the need to use research data more effectively, for both scientific and pragmatic

reasons, this proof-of-concept study was designed to achieve the following: (1) build a conventional research dataset into an accessible and reusable secondary analysis data archive (SADA) with an indexed searchable database; (2) provide a model of how the conversion process can be achieved on other datasets and on a broader scale in the National Institute of Education (NIE); and (3) provide recommendations for attendant changes to institutional processes and research practices.

PARTICIPANTS

Based on our work using a subset of data from the Core 2 Research Programme: Pedagogy and Assessments (Towndrow, Kwek & Chan, 2015), a subset of 102 classroom videos were anonymised and a searchable database was prepared—highlighting the feasibility of such an approach.

Focus group discussions with experienced and prospective researchers showed that many are interested in secondary use—both having their data used and using data collected by others—if procedures are set up to ensure the protection of the rights of individual researchers and participants.

KEY FINDINGS

Building an archive of data useable for secondary analyses is possible and feasible. Technology such as software to pixelate videos (which preserves the anonymity of participants) is freely available. Preparing a searchable database to allow researchers to know about available data requires only basic data entry skills. Over the long term, encouraging secondary use of data is cost-effective, efficient and can lead to greater transparency of research findings.

However, properly archiving and managing the data and the database over the long-term is beyond the scope of individual research projects due to the usual research funding cycle: individual projects are funded to achieve a particular objective or address a specific research question; subsequently, funding ends. For secondary data archives to be prepared and managed, a research data management centre is required. The research data management centre could follow the model of other countries and institutions such as the UK Data Archive (2013), the Murray Research Archive (n.d.) in the US, and the Swiss Information and Data Archive Service (SIDOS, 2013). Looking locally, the

Singapore Management University library has set up a research data archiving system based on the UK Data Archive. Currently, Nanyang Technological University and the National Institute of Education are moving towards systems modelled on the Harvard Dataverse (see Murray Research Archive, n.d.).

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