-	Directorate for Education
-	and Human Resources
_	
_	
	MICE
	NSF

	Division of Research,
	Evaluation and Communication
·	National Science Foundation
	National Science Foundation
	TI 0000 II F II II II II
	The 2002 User-Friendly Handbook
	The 2002 Cool Thomasy Harrabook
	for Draigat Evaluation
	for Project Evaluation

The 2002 User Friendly Handbook for Project Evaluation

Prepared under Contract REC 99-12175

by

Joy Frechtling Westat

with a special section by

Henry Frierson Stafford Hood Gerunda Hughes

Conrad Katzenmeyer
Program Officer and COTR
Division of Research, Evaluation and Communication
National Science Foundation

NOTE: Any views, findings, conclusions, or recommendations expressed in this report are those of the authors, and do not necessarily represent the official views, opinions, or policy of the National Science Foundation.

January 2002



The National Science Foundation
Directorate for Education & Human Resources
Division of Research, Evaluation, and Communication

TABLE OF CONTENTS

Section	1	Page
	Introduction	1
	References	2
I	Evaluation and Types of Evaluation	3
	 Reasons for Conducting Evaluations Evaluation Prototypes 	3 6
	The Different Kinds of Evaluation	7
	Formative EvaluationSummative Evaluation	8 10
	Evaluation Compared to Other Types of Data Gathering Summary	11 13
	References	13
II	The Steps in Doing an Evaluation	15
	3. The Evaluation Process—Getting Started	15
	Develop a Conceptual Model of the Project and Identify Key Evaluation Points Develop Evaluation Questions and Define	16
	Measurable Outcomes Develop an Evaluation Design	20 24
	Selecting a Methodological Approach Determining Who Will be Studied and When	24 25
	References	30
	4. The Evaluation Process: Carrying Out the Study and Reporting	31
	Conducting Data Collection	31 34 35
	Background Evaluation Study Questions Evaluation Procedures Data Analysis	36 36 36 37

TABLE OF CONTENTS (CONTINUED)

Section	ection		Page
		Findings	37
		Conclusions (and Recommendations)	38
		Other Sections	38
		How Do You Develop an Evaluation Report	38
		Disseminating the Information	41
		References	42
III		n Overview of Quantitative and Qualitative ata Collection Methods	43
	5.	Data Collection Methods: Some Tips and	
		Comparisons	43
		Theoretical Issues	43
		Value of the Data	43
		Scientific Rigor	44
		Philosophical Distinction	44
		Practical Issues	45
		Credibility of Findings	45
		Staff Skills	45
		Costs	46
		Time Constraints	46
		Using the Mixed-Method Approach	46
		References	48
	6.	Review and Comparison of Selected Techniques	49
		Surveys	49
		When to Use Surveys	50
		Interviews	50
		When to Use Interviews	51
		Focus Groups	52
			50
		When to Use Focus Groups	53

TABLE OF CONTENTS (CONTINUED)

Section	Page
Observations	53
When to Use Observations	55
Tests	55
When to Use Tests	56
Other Methods	57
Document Studies	57
Key Informant	59 61
Summary	62
References	62
IV Strategies That Address Culturally Responsive Evaluation	63
7. A Guide to Conducting Culturally Responsive Evaluations	63
The Need for Culturally Responsive Evaluation	64
Preparing for the Evaluation	65
Engaging Stakeholders Identifying the Purpose(s) and Intent of the	65
Evaluation	
Framing the Right Questions	67
Designing the Evaluation	68
Selecting and Adapting Instrumentation	68
Collecting the Data	69
Analyzing the Data	70
Disseminating and Utilizing the Data	71
References	72
Other Recommended Reading	74 77
Appendix A. Finding an Evaluator	84

TABLE OF CONTENTS (CONTINUED)

List of Exhibits

Exhibit	Exhibit	
1	The project development/evaluation cycle	4
2	Levels of evaluation	7
3	Types of evaluation	8
4	Types of data gathering activities	12
5	Logic model	16
6	Conceptual model for Local Systemic Change Initiatives (LSCs)	18
7	Identifying key stakeholders	21
8	Goal and objective writing worksheet	23
9	Three types of errors and their remedies	26
10a	Matrix showing crosswalk of study foci and data collection activities	29
10b	Crosswalk of study sample and data collection activities .	30
11	Formal report outline	40
12	Example of mixed-methods design	47
13	Advantages and disadvantages of surveys	50
14	Advantages and disadvantages of interviews	52
15	Which to use: Focus groups or indepth interviews?	54
16	Advantages and disadvantages of observations	55
17	Advantages and disadvantages of tests	57
18	Advantages and disadvantages of document studies	59
19	Advantages and disadvantages of using key informants	60
20	Advantages and disadvantages of using case studies	61

NTRODUCTION

his Handbook was developed to provide managers working with the National Science Foundation (NSF) with a basic guide for the evaluation of NSF's educational programs. It is aimed at people who need to learn more about both what evaluation can do and how to do an evaluation, rather than those who already have a solid base of experience in the field. It builds on firmly established principles, blending technical knowledge and common sense to meet the special needs of NSF and its stakeholders.

The Handbook discusses quantitative and qualitative evaluation methods, suggesting ways in which they can be used as complements in an evaluation strategy. As a result of reading this Handbook, it is expected that program managers will increase their understanding of the evaluation process and NSF's requirements for evaluation, as well as gain knowledge that will help them to communicate with evaluators and manage the actual evaluation.

To develop this Handbook, we have drawn on the similar handbooks and tools developed for the National Science Foundation (especially the 1993 *User-Friendly Handbook for Project Evaluation* and the 1997 *User-Friendly Handbook for Mixed-Method Evaluations*) and the National Aeronautics and Space Administration. However, special attention has been given to aligning the Handbook to NSF's unique needs and experiences. In addition, several NSF program areas have been selected to provide concrete examples of the evaluation issues discussed. The Handbook is divided into four major sections:

- Evaluation and types of evaluation
- The steps in doing an evaluation
- An overview of quantitative and qualitative data collection methods
- Strategies that address culturally responsive evaluation

We have also provided a glossary of commonly used terms as well as references for those who might wish to pursue some additional readings. Appendix A presents some tips for finding an evaluator.

References

Frechtling, J., Stevens, F., Lawrenz, F., and Sharp, L. (1993). *The User-Friendly Handbook for Project Evaluation: Science, Mathematics and Technology Education*. NSF 93-152. Arlington, VA: NSF.

Frechtling, J., and Sharp, L. (1997). *The User-Friendly Handbook for Mixed-Method Evaluations*. NSF 97-153. Arlington, VA: NSF.