Abstract

It is our intention in this manual to provide an overview of the use of qualitative research methods in the engineering education context. Our assumption is that users of this guide will be fairly new to qualitative approaches—and perhaps new to educational research in general. We have tried, therefore, to avoid extensive citations and detail, focusing rather on a general synthesis of the main issues and approaches.

Because qualitative research rests on a different set of philosophical assumptions about the nature of truth and limitations of research than traditional research, the opening chapter begins with an explanation of these fundamental differences. Throughout the following chapters, the ways in which these assumptions play out in researcher choices are documented.

The chapters cover the essential information needed to conduct or evaluate a qualitative study. They describe the design of qualitative studies, basic data collection strategies, analysis techniques, trustworthiness considerations, and writing up the study. Resources for additional information are listed in the final chapter.

The power of qualitative research lies in its ability to adapt to natural settings such as the classroom or laboratory; enable exploration of motivations, reasoning, decision making, and other inner thoughts of participants such as students and teachers; and permit description of the interaction of context and actors in specific settings. For many research questions in engineering education, it is the ideal research approach. It is relatively new in some disciplines, however, and often regarded with suspicion. We hope that this guide will help many researchers to see the utility of the approach, use it well, and enrich the field with new understandings and informed practice.

Bio

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