Chapter 12 Rubin and Babbie (2008)  
Single-Case Evaluation Designs

Single-case (or single-system or single-subject) design
- involves repeatedly measuring a single client or other system on an important variable or outcome
- repeated measures occur before an intervention (baseline), an intervention occurs, and repeated measures on the same variable or outcome continues after the intervention
- the size of the sample in all single case designs is one (N=1)

Single-case designs provide a social worker with a systematic means of observing important client variables (behaviors, outcomes) to determine if change occurs over time. Impact of interventions can be examined, tentatively ruling out some alternative explanations. Single case designs can provide evidence on the effectiveness of interventions.

The elements of an effective single-case design are as follows:
- specifying the target problem, outcome, or goals (dependent variable) of interest
- operationalizing the indicators of the problem, outcome, or goals
- selecting a means to measure the problem, outcome, or goals
- measuring repeatedly
- establishing a baseline
- establishing a design (AB, ABCD, ABAB, etc)
- clearly defining the intervention (independent variable)
- examine the data collected for use in providing feedback to clients and/or information about the effectiveness of an intervention

Several measurement issues exist with single-case design
- an appropriate number of target problems or goals must be identified
- the target problem or goals must be operationally defined
- because of potential measurement problems, triangulation (simultaneously using more than one imperfect measuring option) is recommended

In gathering data, one must consider:
- who should actually do the measuring?
- what sources of data should be used?
- what is the reliability and validity of the data collected?
- what forms of direct behavioral observation might be most appropriate?
- should unobtrusive and/or obtrusive observation be incorporated?
- how should data be quantified? (frequency, duration, magnitude, interval recording)

Establishing a baseline through use of repeated measures is important; sometimes a retrospective or reconstructed baseline can obtained through examination of records.

Alternative single-case designs can be incorporated:
- AB design -- establish baseline, intervention, continue repeated measures
- ABAB design -- establish baseline, intervention, withdraw intervention, reintroduce intervention (continuing repeated measures throughout)
- multiple-baseline designs -- measuring two or more baselines simultaneously (e.g. measuring different target behaviors in each baseline or measuring same target behavior across two different settings of two different systems
- multiple-component designs (ABCD) -- used to analyze the impact of changes in the intervention

Data can be analyzed both visually and using statistical procedures, and results from single case evaluations can be aggregated.

Qualitative methods are also available for single-case evaluation (see pp. 302-303 for issues related to qualitative methods and single case evaluation).