Quantitative approach is... a procedure which investigates specific question, collects quantifiable data from participants (a large number of participants), analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner.

Quantitative questions fall into three categories...
- **Descriptive questions**: e.g., what are the reasons...
- **Comparative questions**: e.g., what is the effect of.../what is the difference
- **Relationship questions**: e.g., what is the relationship between.../what is the trend of...

Qualitative methods are... a procedure which relies on the views of participants, asks broad questions, collects data consisting largely of words (or text) from participants, describes and analyzes these words for themes, and conducts the inquiry in a subjective, biased manner.

Qualitative questions tend...
- to seek, to discover, to explore, to describe....
- attempt to obtain insights into......
- to address “what” and “how” questions

Mixed methods approach is a procedure which involves... collecting, analyzing, and interpreting both quantitative and qualitative data in a single study or a series of studies that investigate the same underlying phenomenon.

Three main advantages of MM approach
- has the ability to address confirmatory and exploratory evaluation questions simultaneously.
- has the ability to provide stronger inferences than a single method.
- provides divergent and/or complementary views from evaluation results

Mixed methods questions can be both quantitative and qualitative questions. Mixed methods approach can also answer both quantitative and qualitative questions.

How to use mixed methods in evaluation
- Evaluation designs depend on (1) evaluation questions/purposes and (2) context of program being evaluated.

<table>
<thead>
<tr>
<th>Timing</th>
<th>Weighting</th>
<th>Mixing</th>
</tr>
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<tbody>
<tr>
<td>If the evaluation is concurrent in nature; it will collect both quantitative and qualitative data at the same time. Concurrent data collection is desirable when the evaluator does not have time to revisit the field. Since the program is ending, time is of the essence. Data will need to be collected before funding has been exhausted</td>
<td>Weighting is the decision to give preference to one type of data over another. Weighting is determined by desires of the primary users.</td>
<td>It shows how the qualitative and quantitative data are connected. Data mixing can occur during collection, analysis, and/or interpretation to provide support information to increase overall program understanding</td>
</tr>
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***Timing is the most important factor. When the evaluator has enough time or plan an evaluation well, evaluation findings will be increased their quality, credibility, and usefulness***

Mixed methods designs

**Concurrent mixed methods design: Triangulation design**

- Use when evaluators want to directly compare and contrast quantitative results with qualitative results or to validate or expand quantitative results with qualitative data.

**Concurrent mixed methods design: Embedded design**

- Use when evaluators need to include qualitative data to answer an evaluation question within a largely quantitative study. This design is particularly useful when evaluators need to embed a qualitative component within a quantitative design.

**Sequential mixed methods design: Exploratory design**

- use when evaluators want to use the qualitative results help develop or inform the quantitative method
- use when intended users want to explore the program and then identifying evaluation questions
- prioritize evaluation questions when an evaluation has many evaluation questions

**Sequential mixed methods design: Explanatory design**

- help explain initial quantitative results with qualitative data
- use when evaluators need qualitative data to explain significant or nonsignificant results, outlier results, or surprising results.
- use when evaluators want to follow up with subsequent qualitative data