

## View associations within *Design Pattern for Observational Investigation*

View: View Associations (horiz.)

Full Text | Limit text:

### Anchor:

Focal knowledge, skills, and abilities

- Fk1. Ability to analyze why observational investigation methods are more appropriate than experimental methods for some phenomena/situations [details](#)
  - Fk2. Ability to distinguish between observational and experimental methodology [details](#)
  - Fk3. Ability to generate or evaluate predictions or hypotheses about scientific phenomena that are appropriate for observational investigation [details](#)
  - Fk4. **Ability to formulate conclusions, create models, and appropriately generalize results from observational investigations** [details](#)
  - Fk5. Ability to test predictions or hypotheses using observational methods [details](#)
  - Fk6. Ability to plan a systematic collection of observational data based on a predicted relationship
  - Fk7. Ability to collect, analyze, and interpret observational data with appropriate tools
- [ + add ]

### Associated:

Potential observations

- Po1. Appropriateness/strength of observational evidence to help confirm or disconfirm a prediction or hypothesis [details](#)
  - Po2. **Accuracy in identifying the effects of an observed active phenomenon and how these effects are consistent with a posited cause and effect relationship** [details](#)
  - Po3. **Correctness of recognized pattern in data to support a prediction or hypothesis** [details](#)
  - Po4. **Plausibility/correctness of explanation for observed findings** [details](#)
  - Po5. Accuracy in critiquing the observational investigation methods, evidence, and conclusions of others [details](#)
  - Po6. Plausibility and systematicity of the data collection plan
  - Po7. Correctness of selected tools and procedures for data collection
  - Po8. Systematicity and appropriateness of collected data
  - Po9. Appropriateness of measurement precision
- [ + add ]

### Associated:

Potential work products

- Pw1. **Identification or generation of a prediction or hypothesis that is appropriate to an observational investigation situation** [details](#)
- Pw2. Identification of observational settings where data could be collected to confirm or disconfirm a prediction or hypothesis [details](#)
- Pw3. Identification of additional source of data that could confirm or disconfirm a prediction or hypothesis supported by existing data [details](#)
- Pw4. Identification or generation of a replicable data collection process (e.g., repeated sampling over time or at several locations) [details](#)
- Pw5. Identification of potentially disconfirming observations
- Pw6. Filling in of a representational form (e.g., a graph, chart, or map) to show the relationship among variables relevant to a prediction or hypothesis [details](#)
- Pw7. **Generation or selection of an explanation for observed findings** [details](#)
- Pw8. **Critique of flawed explanation based on observations**
- Pw9. Peer critique (hypothetical in a standard assessment, real in classroom work) of the observational investigation methods, evidence, and conclusions [details](#)