

Misconception/Preconception Check

Simple questionnaire illustrate erroneous or incomplete student preconceptions.

Purpose:

- Provides quick access to pernicious student misconceptions
- Provides quick access as to incomplete prerequisite learning
- Demonstrates to students they are not alone in their beliefs
- Facilitates discussion
- Focuses attention on a particular point
- Provides immediate feedback

Uses:

- At the beginning of class to provide transition between sessions
- Before learning activities to uncover likely barriers to learning
- Before learning activities to determine starting points (where previous learning left off)
- At any point in the class to draw attention to an idea
- To check attendance

Method:

1. Create a questionnaire on troublesome ideas, most likely in multiple-choice format.
2. Hand out the questionnaire before beginning a new topic.
3. Explain to students that anonymity is assured.

Results:

- Tabulate results of multiple choice questions
- Document results by developing a data collection spreadsheet or table
- Identify prominent preconceptions

Next Steps:

- Determine appropriate teaching technique responses to results
 - Large percentage had similar misconceptions: plan for overcoming these specific barriers to learning
 - Small percentage had similar misconceptions: consider peer tutoring or homework assignments, rather than class time, to counter the preconceptions

Future Steps:

- Keep records of results for use with student, course, and program assessments (trends begin with one result!)
- Course or program review:
 - Large percentage with misconceptions = strengthening focus of these in previous courses

- Large percentage having no misconceptions = lessening focus or eliminating from course
- Large percentage demonstrating poor understanding = adding concepts or skills to pre- or post- courses for necessary redundancy
- Compare results from classroom assessments of major concepts with certification test results, graduate, and employer surveys and/or accreditation review comments; positive correlation = you are on the right assessment track and the right improvement track