

Assessing Projects: Checking Understanding Students Observing Thinking

Peer Observation

How do we assess a process that goes on primarily inside the brain? Teachers often use checklists to observe student behaviors. The following activity is used to observe thinking, but in this case it is used to help students see and understand their own thinking and the thinking of others.

1. Present the class with a problem to solve in small groups.
2. Hand out the Problem-Solving Checklist and ask each group to review.

| Problem-Solving Skills | Comments |
|---|----------|
| Responds positively to complex problems | |
| Maintains concentration in active environment | |
| Persists with challenging problems | |
| Takes a systematic approach to support decisions and conclusions | |
| Identifies all of the key elements of the problem | |
| Represents problem in symbols | |
| Uses equations | |
| Works backward | |
| Chooses effective notation | |
| Makes tables and diagrams | |
| Builds models | |
| Simplifies the problem | |
| Assesses the validity of methods and answers | |
| Supports a conjecture with a logical or mathematical argument | |
| Tests and accepts or rejects a conjecture based on well-thought-out rationale | |
| Makes generalizations to other cases | |

3. Ask students in each group to choose a person to be the observer who will:
 - Observe the rest of the group solving the problem and record in the checklist observations about the strategies and processes the group uses as they work.
 - Make check marks or brief comments when observing any of the behaviors listed in the chart.
 - Coach the group in problem-solving strategies.

4. After giving students time to work on the problem, ask the students being observed to check the thinking strategies they think they used and compare them to the observers. Have them discuss their thinking strategies and support their statements with evidence.
5. Ask students to reflect in their journals about any new understandings they take away from the activity.

This checklist can be adapted to include other thinking skills and processes. For example, students could analyze a short story and use a checklist of literature analysis skills. The *Assessing Projects* application has many complete Thinking Skills Checklists already created.