**Think Aloud**

**Definition:**

Think Aloud is an established research technique used to understand how people think and learn. It requires students to verbalize (usually to a partner) what they are thinking about as they read a passage or as they solve a problem. The vocalization should include all thoughts, decisions, analyses, and conclusions as the problem solver reads or solves a problem. This procedure is often called Paired-Problem Solving when the student is solving a problem.

**Rationale:**

Students gain insights into their thinking and reasoning by vocalizing their methods for solving problems and by justifying their reasoning. The research suggests that students actually improve their reasoning abilities through repeated use of the think aloud procedure.

**Description:**

Students work in pairs, one as the thinker/problem solver and the other as the listener. The thinker must vocalize every step in the reasoning, including reading the problem out loud. The listener must listen and understand every step the thinker / problem solver takes. The pair should work together rather than separately.

*The Thinker / Problem Solver Should:*

* Keep thinking out loud
* Predict what will come next
* Ask questions such as: Why? What? How?
* Tell what the problem is asking for and what variable are present
* Visualize: draw, chart, sketch
* Check for accuracy
* Change roles every other problem

*The Listener should:*

* Require that the problem solver continually vocalize
* Listen to the predictions the problem solver makes
* Keep the thinker talking
* Point out any errors
* Check for accuracy
* Jot down notes
* Change roles every other problem

**Procedure:**

1. Pair the students. Remind them of their Roles.
2. Assign problems
3. Get the pairs back together to discuss answers and observations on the problem solving process that the pairs observed.
4. Summarize any problem solving techniques unique to certain problems.