How to Use the Think-Share-Advise-Revise (TSAR) Strategy

NOTE: A link to the student version of this "How To" can be found in the student edition at point of use. It can also be found in the Student Resources menu at the top of the screen.

Talking about what you read helps you *understand* what you read (Rosenshine & Meister, 1994; Lemke, 1990). That is because reading involves input, and speaking involves generating ideas (Wittrock, 1990), hallmarks of information processing. When we generate sentences in speech, we reconfigure knowledge based on its meaning to us. Other people listen to what we say and give us feedback on whether our explanations make sense. That feedback tells us if we need to reread or rethink. This back-and-forth process is essential to constructing understanding (Vygotsky, 1962). Students benefit from strategies that allow them to talk through their work, give and receive feedback, and revise their work.

One specific strategy developed for students is called Think-Share-Advise-Revise (TSAR). Although there are a number of different strategies where students turn and talk with a neighbor, TSAR does not presuppose that students know what it means to "share." TSAR is used to help students learn how scientists share what they are thinking in a way that promotes learning and understanding.

Students will benefit from you modeling the strategy for them. In the beginning, be sure to model each stage separately. Provide students with examples of both what you would like to see and what you would not like to see as they complete the strategy. It may help if you can have another person role-play a TSAR scenario with you.

The following are sample prompts from each stage of the TSAR strategy and hints for you to make the process run more smoothly in your classroom:

1. Sample ***think*** prompt: "Look at the question written at the top of page 13. I would like for you to answer that question in your notebook using complete sentences. I will give you a few minutes to work by yourself on this, so no talking yet."

   It is crucial that students work through this *think* step individually. Ultimately, it is how individuals grow that counts as meaningful achievement. Foster a classroom climate of respect for individual thinking time. Usually, this means a few minutes of quiet reflection. Writing in complete sentences is important as it helps students practice communicating in scientific ways. Because in the next step they will read only what they have written, with no additional explanation, complete sentences help them to communicate what they want to share.

2. Sample ***share*** prompt: "Join with a partner. Each of you should read your answers aloud, word for word. I should not hear any other explanations or additions or people saying, 'What I meant was …'"

   You may wish to model how students can share information effectively with their partner by enunciating clearly or even allowing their partner to read along as they speak. This may seem overly prescriptive, but students will greatly benefit from a better understanding of your expectations. An important part of sharing is making sure that the other person can see or hear clearly. In uses of the TSAR strategy involving graphical representation, you may need to act out holding a sketch in a science notebook at an angle in front of an observer and using a pencil to point out each important aspect. Mimic a minipresentation in which you explain a feature and pause for a reaction, then proceed to the next feature, and so on, until the sharing is complete. If you do not show students how to share explicitly, many will gloss over the details of their reasoning or the graphics that they are trying to explain. In the case of sharing graphically represented knowledge, verbally articulating spatial and dimensional representations of knowledge is another chance for students to reconfigure knowledge.

As you model sharing, strongly emphasize the aspect of reading exactly what you originally wrote. Reading aloud helps students self-diagnose problems with logic and evidence. This ability to self-monitor is an essential feature of independent learning—a key goal for students. Further, reading aloud gives you important assessment information about abilities that affect performance in science, such as reading level and information processing. Finally, reading aloud is a part of students learning effective scientific communication through giving and receiving feedback.

3. Sample ***advise*** prompt: "Ask for advice from your partner. Ask him or her if there is anything you can do to improve your answer."

   Learning from feedback is very important to lifelong learning. However, students may not know how to listen to advice from peers. You can help them learn by calling attention to the role of peer feedback in successful learning. Remind them that advice is one way for a peer to communicate how his or her prior knowledge applies to a situation. Thus, peer advice is a way to broaden their perspective, an essential part of effective problem solving. Also, learning how to pay attention to peer feedback reinforces good observation skills.

   Pay attention to inappropriate feedback. Examples include, "That's dumb," "No way!," and "You've got to be kidding." Let students know how common it is for scientists to disagree, but remind them that the focus should be on the thoughtful analysis of each position, not on personalities, hurt feelings, and interpersonal politics. Questions are provided in the student materials to help students understand what types of feedback they might provide to their partner. Ensure that both partners have an opportunity to receive feedback during this stage.

4. Sample ***revise*** prompt: "Carefully consider your partner's advice. Revise your work using a different-colored pen or pencil if you think she or he has made an important point."

   Show how important this step is to you by giving students quiet time to accomplish it. They may not be accustomed to having class time to consider the advice of peers by revising their technology notebooks. They may need some initial encouragement to make this step part of effective scientific communication. Be sure to inform them that such revisions are part of the evidence you use to assess their ongoing progress toward increased scientific thinking. Learning from mistakes and keeping a careful record of the "what" and "why" of mistakes or miscues is a mark of successful scientists. Using different-colored pens or pencils to record revisions will make it easier for you to assess the evolution of your students' learning. It will also reinforce and set apart this learning event for you and your students. Allowing students to track their learning in this way will also help reinforce that they do not have to come to class knowing all the "right" answers, but that they are expected to learn and grow through the work they do in class.

   Some classes will need more explicit teacher modeling of the TSAR strategy than other classes. Based on your professional judgment, act out the role of each team member during each step. For example, when you play the role of listener, model a respectful, attentive posture. But also scrunch up your face or raise your eyebrows occasionally to model questioning. Explain how the person sharing must look for such body language clues and think of them as part of feedback. Model proper techniques of expressing and working through differences in explanations. It can also be very effective to use an overhead or electronic whiteboard to model your expectations of documentation. Write an example of an initial student response and show the revisions to this original thinking.

   As you use the strategy more often, you will be able to fade your scaffolding of the activity. You may be able to have students combine the share and advise stages. It is important to ensure that both students get equal opportunities for those stages regardless of whether they are combined. Eventually, you will be able to prompt students with, "Use the TSAR strategy for this question," and students will be able to carry it out on their own. The result will be clearer, better ideas and communication from students.

References

Lemke, J. (1990). *Talking science: Language, learning, and values.* Norwood, NJ: Ablex Publishing

Rosenshine, B., & Meister, C. (1994). Reciprocal reading: A review of the research. *Review of Educational Research, 64*(4), 479–530.

Vygotsky, L. (1962). *Thought and language.* Cambridge, MA: Harvard University Press.

Wittrock, M. (1990). Generative processes of comprehension. *Educational Psychologist, 24*(4), 345–376.