**Making Thinking Visible with Harvard Thinking Routines**

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**What is meant by making thinking visible?**

Making thinking visible is essentially understood as a paradigm shift in the mind of both teacher and student from simply doing to thinking deeply. Thinking is considered not only the purpose of education and learning but as the means to understanding. Thinking is thus transformed from memorization, work, and activity to understanding (Ritchhart, Church, & Morrison 2011, p. 8). This pathway is facilitated by noticing and naming thinking explicitly, i.e., making thinking visible, seeing what is going on in students’ minds (Ritchhart et al., p. 22; Hattie 2012, p. 37).

Fostering understanding in this rather transparent manner also serves to develop greater engagement and independence in students, especially when an additional instructional focus is placed on metacognition (Ritchhart et al., p. 22). Teachers should share with students the learning objectives of lessons so that they know what success looks like (Hattie p. 53). The transparency of learning must also be extended to facilitate a new culture of learning in the classroom; the learning must be visible to the teacher, and the teaching visible to the student (Hattie, p. 20-1). Explicitly noticing and naming thinking that fosters understanding plays out in the classroom by centering both teachers and students on specific thinking strategies (Ritchhart et al., p. 22).

**Why is it important to make thinking visible?**

 Thinking occurs invisibly, to the outside world and even sometimes to the thinker. It is often automatic and done below the threshold of consciousness. These are a few of the proposed reasons for why critical, sophisticated thinking abilities develop so slowly in students. To encourage the development of higher levels of thinking in students, thinking should be an overt and intentional piece of classroom and educational discourse, in other words, teaching students how to think in an explicit way, making their thinking visible. (<http://www.pz.gse.harvard.edu/visible_thinking.php>)

Part of making thinking visible in students is fostering metacognition in students, enabling them to be independent and responsible for their learning, becoming their own teachers (Hattie p. 115).

 The Harvard thinking routines help to organize the normalization of thinking in everyday classroom events. Yet making students’ thinking visible not only encourages higher level thinking, it also serves to deepen content learning. The thinking routines are applicable to every subject area and serve as tools for helping students think about subject matter. (<http://www.visiblethinkingpz.org/VisibleThinking_html_files/VisibleThinking1.html>)

Intentionally activating students’ thinking fosters more critical and creative thought, and thus becomes an empowering process as students become more aware of their thinking. A culture of thinking and a community of learners are born in the classroom when learning is transformed from producing on paper to thinking together and being empowered as independent learners and thinkers. (<https://learnweb.harvard.edu/wide/en/prog/visible.html>)

**What type of thinking do you value and want to make visible?**

When striving to make students’ thinking visible in the classroom, it is necessary to first identify what type(s) of thinking will foster understanding in a given subject area/unit of study. Once this is decided it is helpful for students if thinking procedures are posted in the classroom or made visible in some way. The authors discuss several specific types of thinking that foster understanding. These are as follows:

* Observing closely and describing what’s there
* Building explanations and interpretations
* Reasoning with evidence
* Making connections
* Considering different viewpoints and perspectives
* Capturing the heart and forming conclusions
* Wondering and asking questions
* Uncovering complexity and going below the surface of things (Ritchhart et al., p. 11, 13)

In addition to these eight, the authors also list other types of thinking that help students make connections to prior knowledge. These six are as follows:

* Identifying patterns and making generalizations
* Generating possibilities and alternatives
* Evaluating evidence, arguments, and actions
* Formulating plans and monitoring actions
* Identifying claims, assumptions, and bias
* Clarifying priorities, conditions, and what is known (Ritchhart et al., p. 14)

**How can you make thinking visible in your students?**

Once one identifies the specific which type of thinking that best suits a given teaching/learning scenario, it is important to look at several methods to promote that thought. The methods for making thinking visible discussed by Ritchhart et al. (2011) include: questioning, listening, and documenting. These three methods are discussed in greater depth below.

Questioning as a teaching tool to capitalize on thinking is fleshed out by the authors in terms of the nature of good questioning. First, it is important when asking good questions to also model an interest in the subject matter by asking genuine questions, that is, questions to which the teacher does not already have an answer. Seeing teachers as learners is valuable in terms of “creating a classroom culture that feels intellectually engaging” (Ritchhart et al., p. 31). A second component of good questioning is asking questions that are intentionally crafted to construct understanding. These questions ask students to connect ideas, make interpretations, focus on central ideas and concepts, and extend their own ideas; these questions can also act as the goals for the lesson itself. Explicitly framing the “intellectual endeavor” with which students are to engage during a particular lesson sets them on a guided course to more profound understanding (Ritchhart et al., p. 32). The third element of good questioning is that of facilitating and clarifying thinking. This is done through follow-up questions such as:

 “What makes you say that?”

 “Can you say more about that?”

 “I’m not quite following you, can you say what you were thinking in a different way?”

“What does that tell you?”

“What do you think you were basing that on?”

The ultimate goal of these questions is to understand students’ thinking and make it visible for them to see. Fostering quality thinking in students by means of follow-up questions such as these serves to shift the paradigm of education from transmitting the contents of the instructor’s head to helping students discover what is in their own heads (Ritchhart et al., p. 35).

 The second method the authors suggest to make students’ thinking visible is listening. It is imperative for instructors to not only ask probing questions but to authentically listen for students’ answers to those questions. If students don’t feel heard or understood they will likely play “guess what’s in the teacher’s head” when presented with a question versus stating what they actually think and understand. Capturing students’ answers enables the instructor to understand what they are thinking and understanding and thus respond with questions that serve to elaborate, challenge, clarify, stretch, or redirect thinking/understanding as necessary. Finally, authentically listening to students communicates the instructor’s respect for and genuine interest in what they have to offer. Students are more willing to share and more likely to contribute honestly to class discussion when an atmosphere of respect is established (Ritchhart et al., p. 36-7).

 The third and final method for making thinking visible in the classroom is documenting. Documentation in the making-thinking-visible sense is not to be confused with recording or archiving classroom activity or student achievements; rather, documentation “is focused on the learning process itself by trying to capture the events, questions, conversations, and acts that provoke and advance learning over time” (Ritchhart et al., p. 38). The final point must be emphasized, that documentation must be utilized to not just record learning but it should also serve to facilitate and deepen further learning. This third method also allows both instructor and student to see at some distance the learning process and use this vantage point to collaborate regarding best teaching/learning strategies, notice positive/negative patterns, and reflect together on developing understanding. Like the previous two methods for making students’ thinking visible in the classroom, the ultimate end of documentation is to facilitate “deeper and richer understanding” in students (Ritchhart et al., p. 39).

**What are Harvard thinking routines and how are they best used?**

 Thinking routines are particular procedures used in the classroom to facilitate a specific type of thinking (Ritchhart et al., p. 45). A selection of the Harvard thinking routines is presented in the table below and the routines themselves are grouped into three categories as each routine is best suited for one of these instructional situations: 1) introducing and exploring, 2) synthesizing and organizing, and 3) digging deeper. Each of the following thinking routines are discussed in further detail in the handout “*Selected Harvard Thinking Routines*.”

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| **Routine** | **Key Thinking Moves** |
| **Routines for Introducing and Exploring Ideas** |
| Compass Points  | Decision making and planning, uncovering personal reactions |
| **Routines for Synthesizing and Organizing Ideas** |
| CSI: Color, Symbol, Image | Capturing the heart through metaphors |
| Generate-Sort-Connect-Elaborate: Concept Maps | Uncovering and organizing prior knowledge to identify connections |
| Connect-Extend-Challenge | Connection making, identifying new ideas, raising questions |
| **Routines for Digging Deeper into Ideas** |
| Tug-of-War | Perspective taking, reasoning, identifying complexities |
| Claim-Support-Question | Identifying generalizations and theories, reasoning with evidence, making counterarguments |
| What Makes You Say That? | Reasoning with Evidence |

During the implementation process, the authors have identified three stages of development as both teacher and students become accustomed to using thinking routines:

In the initial stage, or “getting started”, the thinking routine may feel like a “stand-alone activity”, a stark deviation from normal instructional/classroom dynamics. This is largely due to the new language and feel of the routine; the routine will become more natural once these things are normalized. Students may also express confusion when asked directly to think in a certain way – this is to be expected as the norm for students is producing either correct or incorrect answers on worksheets or tests and being asked to wonder aloud and share authentic thoughts, to think, essentially, is rare (Ritchhart et al., p. 264).

In the second stage, or “getting comfortable”, more experience with the routine usually allows the teacher’s focus to widen from the routine as a classroom activity to using the routine as a tool to explore content and encourage content-specific understanding in students. A shift is made from fitting routines to units to fitting routines to thinking. Students during this stage often experience growing confidence in the power and importance of their own ideas as well as those of classmates, and this leads to greater learning independence as well as an emerging sense of a community of learners in the classroom (Ritchhart et al., p. 265-6).

In the third stage, or “getting confident”, there is a shift for both instructor and students from routines feeling “awkward and rigid” to feeling more “intuitive and flexible”. A developed sense of ownership of routines enables teachers to integrate them naturally into instruction, even modifying them to better fit content-specific learning outcomes. Routines will gradually become tools the teacher uses to achieve the greater goal of creating a “culture of learning” in the classroom. Students will also, with time, feel a sense of ownership of thinking routines. Because routines are meant to also be used by individual learners, students can be expected to begin to use them independently to guide learning (Ritchhart et al., p. 266-7).

Also noteworthy are several common “pitfalls” that teachers may experience when integrating thinking routines into classroom activity. These pitfalls are described below:

* *Sticky Note Mania*: In other words, documentation overkill. As ideas are generated and then recorded on white boards, writeable walls, or large sticky notes around the room, the purpose of documentation can easily be overwhelmed by the mess of writing and paper on the walls. To remedy this, one must consider which big ideas students should be encouraged to return to (Ritchhart et al., p. 267).
* *Special of the Day:* When first beginning to introduce thinking routines in the classroom, it is common for the teacher to try them all, a new one each day perhaps, as “special of the day” denotes. This is a dangerous habit as it can lead to student fatigue and using routines for their own sake. Thinking routines are merely tools that must be used to draw out specific types of thinking, as the learning situation demands, as well as creating a particular culture of thinking in the classroom (Ritchhart et al., p. 268).
* *Death by Worksheet:* Oftentimes teachers tend to overuse worksheets to the point of killing any potential learning. The thinking routines are not meant to always be paired with worksheets, but rather to be tools to facilitate discussion about and engagement with content. Interacting is powerful and central to learning, and worksheets often distract students by making them focus on the work rather than the learning (Ritchhart et al., p. 270-1).
* *From Episodes to Arcs:* A final issue common to the beginning stages of utilizing thinking routines is transitioning from presenting routines as isolated activities to creating a seamless integration into typical day-to-day classroom activity. In the effort to make instruction fluid (thinking routines included), it often proves helpful for teachers to articulate the big ideas or themes of a given unit or even semester and work in activities, routines, and instruction around those overarching goals (Ritchhart et al., p. 271-2). Asking the question “where am I going” at the beginning of the lesson, unit, or semester is useful in integrating routines effectively and naturally as learning supplements (Hattie p. 131).

**Sources**

* Ritchhart, R., Church, M., & Morrison, K. (2011). *Making thinking visible: How to promote engagement, understanding, and independence for all learners.* San Francisco: Jossey-Bass.
* Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* New York: Routledge.
* http://www.visiblethinkingpz.org/VisibleThinking\_html\_files/03\_ThinkingRoutines/03a\_ThinkingRoutines.html