**Agenda**

**Carousel Rotation**

**Wednesday July 21, 2021**

 **40 min segments**

**Lynda Tredway & Jim Argent**

 

**Think-Pair-Share**

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| **Outcomes** | **Agreements** |
| * **Analyze TPS as a tool for equitable academic discourse**
* **Apply learning theory and research to the rationale for TPS use**
* **Analyze the process of formative assessment for levels of student engagement and dialogue**
 | **Fully engage in TPS pairs****Keep camera on** |

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| **Time** | **Activity** | **TPS****From TPS** **SMART CARD** | **Read or Do** |
| **10 min****LYNDA** | Greetings from Frank Lyman Overview* TPS is a key equity strategy.
* TPS is foundational to academic discourse.

What have you seen in classrooms (as a student, teacher, or observer) using turn and talk and TPS? | **Think***Recall experiences***Pair***Partner Share (if in classroom)***Share***Chat box Share* | **Example of “IN the Classroom”** |
| **10 min****JIM** | **WHY TPS?*** Analyze how TPS applies to learning theory and research
* Choose a classroom example that fits with Learning Theory and TPS

READ (3 min)THINK (1 min)Breakout PAIR (4 min)**Show Page Three** * Notice the text features
* Deeper Reasons – the Science of TPS
 | **Think***Idea to Example***Pair***Paraphrase***Share (In Pairs)**Pair Share, but not full | **Read pp. 1-2 of TPS Overview****Pairs**  |
| **15 min****LYNDA** | **Uses of TPS: Focus on checking on understanding (CFU) and formative assessment – Page 4****Breakout Questions:**What is the relationship between the teacher intentionality and the student dialogue? What did you notice about the planning, actions, and formative assessment?Chat box Share | **Read P. 4****Video****Breakout** |  |
| **5 min** **JIM** | **Debrief** How will you model TPS in faculty meetings and professional learning sessions?Lesson with Faculty | **Think***Idea to example***Share***Free Write* | **Chat Box****Everyone** |

THINK-PAIR-SHARE:

THE DIFFERENCE BETWEEN STUDENT TALKING and DISCOURSE

Zwiers & Crawford (2011) are quite right in the analysis of present TPS use as a “ditty” or filler. Too often in current classrooms, the important TPS components and learning capacities are lost when the teacher poses a question (often low level) and says “turn and talk” without think time, clear directions for how to partner, and expectations of the conversation. Those types of teacher moves constitute misuse of TPS as a learning tool and as a formative classroom assessment tool.

**WHY TPS?**

**Background in Learning Theory and Research Studies**

**Learning Theory: Information Processing**

Frank Lyman introduced TPS in 1977 as a technique to support the basics of information processing as a theory of learning. If a student is given time to process the question (**think** time) and rehearse a response (**pair**), then the student is more likely to **share**. As a result the student is more likely to understand how to go about learning – by thinking, paraphrasing, talking. Academic discourse built on every student response and access for every student to the classroom conversation increases equitable access and leads to stronger academic engagement and performance.

**Learning Theory: Constructivism**

If a learner engages with a peer in paraphrasing a response to a question or making sense of reading or a problem, the learner’s brain actually activates working memory and rehearses his/her/their response to a question or problem. Termed **intersubjectivity** by Vygotsky (1978), peer learners co-construct knowledge and are more likely to encode and retain information. By experiencing phenomena, the learners reflect and make meaning through collaborative discussion.

**Research (Both research studies are from a classroom teachers)**

Sampsel’s (2013) study of mathematics classrooms found that by using think pair share the following occurred: students’ participation increased, the number of long explanations given by students increased, and students comfort and confidence when contributing to class discussion increased. The author is a teacher and conducted the research in her classroom.

https://scholarworks.bgsu.edu/cgi/viewcontent.cgi?article=1029&context=honorsprojects

Purser, M. (2019) *Pump up the volume: Amplifying student dialogue in 21st century ELL classrooms.* Unpublished dissertation, East Carolina University. (Cohort 1 EdD International)

*Modeling respectful dialogue through Think Pair Share (TPS) … is instrumental in creating a classroom in which all voices are heard and respected. Students developed metacognition through a schema of text annotation, supportive dialogue (circles, TPS, Socratic Seminars), and ThinkTrix leading me to understand that students can be taught how to think metacognitively.*

 [](https://www.google.com/imgres?imgurl=http%3A%2F%2Fdataworks-ed.com%2Fwp-content%2Fuploads%2F2014%2F06%2FIPM.png&imgrefurl=https%3A%2F%2Fdataworks-ed.com%2Fblog%2F2014%2F07%2Fthe-information-processing-model%2F&docid=WvyD6IuK93ak6M&tbnid=mo1ZmAMg0nsTTM%3A&vet=10ahUKEwiLp4KCvdXVAhVW-2MKHbvJCWYQMwjGASgAMAA..i&w=624&h=360&bih=605&biw=1320&q=information%20processicn%20model&ved=0ahUKEwiLp4KCvdXVAhVW-2MKHbvJCWYQMwjGASgAMAA&iact=mrc&uact=8)

**REHEARSAL**

**ENCODING**

**[Metacognition](https://www.google.com/imgres?imgurl=http%3A%2F%2Fdataworks-ed.com%2Fwp-content%2Fuploads%2F2014%2F06%2FIPM.png&imgrefurl=https%3A%2F%2Fdataworks-ed.com%2Fblog%2F2014%2F07%2Fthe-information-processing-model%2F&docid=WvyD6IuK93ak6M&tbnid=mo1ZmAMg0nsTTM%3A&vet=10ahUKEwiLp4KCvdXVAhVW-2MKHbvJCWYQMwjGASgAMAA..i&w=624&h=360&bih=605&biw=1320&q=information%20processicn%20model&ved=0ahUKEwiLp4KCvdXVAhVW-2MKHbvJCWYQMwjGASgAMAA&iact=mrc&uact=8)**

From: <https://www.learning-theories.com/information-processing-theory.html>

***Information Processing Process****: A stimulus (problem, question, reading) enters* ***sensory memory****. The learner* ***attends*** *and then actively* ***perceives****. However, if the learner does not* ***rehearse*** *by paraphrasing and making the learning a part of* ***working memory****, the learner does not then attach the new learning to schema by* ***rehearsing and encoding*** *so that the knowledge/learning becomes a part of* ***long-term memory****. In turn,* ***metacognition*** *– becoming aware of how the learner learns and articulating how that happens – helps in retaining. The learner engaged at this level tends to be a more active participant in classroom dialogue.*

*Culturally responsive teaching offers a way to reintegrate information processing into everyday instruction because many of the learning strategies parents of culturally and linguistically diverse students use at home resemble the cognitive routines taught in advanced classes…Cognitive scientists recognize three stages in the process:  input, elaboration, and application.*

***Input*** *- the brain decides what information it should pay attention to....Elaboration - the brain seeks to understand what it means...Application - apply new knowledge through deliberate practice and real life application....Culturally responsive information processing techniques grow out of the learning traditions of oral cultures where knowledge is taught and processed through story, song, movement, repetition chants, rituals, and dialogic talk. They are all forms of elaboration and rely heavily on the brain's memory system.* (Hammond, 2015, pp.125-127).

**TPS Purposes & Processes**

1. Check for basic understanding of directions or lower level cognition
2. Increase academic rigor by offering support for students to engage in co-constructing responses to higher level cognitive questions and ambitious math tasks.
3. **CLASSROOM STRUCTURES**
	* **PREPARE STUDENTS FOR TPS:** Teach students how to partner by practicing the basics of turning to each other, looking at each other, and listening to each other. Practice partnering with one person so students know the process.
	* **OTHER STUDENT ACTIONS**: Students can be observers for the class for use of TPS and equitable classroom dialogue.
4. **TEACHER PLANNING:** Plan for higher cognitive questions and longer conversations as part of lesson planning, especially for key concepts or to share multiple solutions or ideas.
5. **TEACHER ACTIONS**
	* Teacher listens in on pairs as they pair. Ask probing questions if appropriate to boost thinking. (note: do not just stand in front of room and wait).
	* Check for understanding/CFU (particularly with students about whom you may be concerned)
	* Teacher should pay attention to supporting students who do not typically participate and support “rehearsal” so the student is prepared to share with entire group, supporting equitable access in another way.
	* After think and pair, teacher can use “equity sticks’ to call on students to share.
	* Teacher should be ready to decide on partner talks if there is a particular issue or question that comes up in the lesson.
	* Use TPS to debrief and engage students in metacognitive understanding of how they learn, an often overlooked part of effective lessons.
	* See below for more formal formative assessment of TPS
6. **FORMATIVE ASSESSMENT**

**https://learn.teachingchannel.com/video/participation-protocol-ousd**

**PARTICIPATION PROTOCOL: Reading the book**

**1. Look at your partner**

**2. Lean toward your partner**

**3. Lower your voice**

**4. Listen attentively**

**5. Use evidence and examples**

**Teacher checks for formative assessment**

Checklist

Scribing what they said to be specific about what they said to demonstrate the 5 criteria.

**Websites useful for TPS**

http://www.readwritethink.org/professional-development/strategy-guides/using-think-pair-share-30626.html

http://virtualteachingcommons.org/think-pair-share/

https://www-s3-live.kent.edu/s3fs-root/s3fs-public/file/Teaching%20Tools%20in%20A%20Flash%20-%20Think%2C%20Pair%2C%20Share%20%20-%20Final.pdf

https://learn.teachingchannel.com/video/text-analysis-lesson-ousd

https://www.youtube.com/watch?v=tPSfolz\_700 Math problem with TPS/third grade

Specifics of how to turn and talk.