

Science in the Pub, Hobart – Some things to consider.

Peter Johnston,

The University at Albany-SUNY

PJohnston@Albany.edu

Recognizing the futility of attempting in ten minutes to make the following points, here is a guide to key points I think can be safely made on the basis of a range of forms of research. These points are in my book *Opening Minds: Using language to change lives* (yes, this is a plug and the book is short and cheap).

The points I actually made, I think, are from a study by Gay Ivey and myself (2013 - Engagement with young adult literature: Outcomes and processes *Reading Research Quarterly*, 48(3), 255-275). In the study, 8th grade English teachers stopped assigning books for students to read, invited them to read a range of personally relevant young adult novels with no strings attached. There were no more than 3 copies of any one novel available and most teaching was done either one to one or in the class read-aloud of an engaging novel in which the teacher invited discussion at any point, foregrounded uncertainty (particularly with multiple perspectives), added what was going on in his/her mind and pointed out strategies that students used in the discussions.

- Average reading volume went from three books/year to 42 books/ year.
- 13% then 16% more students passed the state competency test with a reduction in achievement gaps across subgroups.
- Increased; strategic /engaged reading, expectation of meaningfulness, strategy generation, stamina.
- Increased thinking together dialogically inside and outside school including symmetrical power arrangements, taking up conflicting perspectives.
- Improved social relationships, including engaging new people (valuing diversity), expanded trust, and engaging parents in new ways, making new friends.
- Improved social imagination, increased empathy
- Increased academic, emotional and behavioral self-regulation
- Increased sense of moral agency - less judgmental of people, but prepared to call out problematic behavior.
- More productive identities and agentive narrative trajectories.
- Increased happiness

Much of my talk expanded on Vygotsky's (1978) observation that "Children grow into the intellectual life around them" and his observation that cognitive growth is "more likely when one is required to explain, elaborate, or defend one's position to others as well as to oneself; striving for an explanation, often makes a learner integrate and elaborate knowledge in new ways." I also promoted the idea of what it means to take seriously children's thinking together and the idea that the adult is not the only teacher in the classroom.

I pointed out that events happen in the classroom, but students don't know what they mean until teachers put a layer of language over the top – as Michael Halliday puts it, "Language is the essential condition of knowing, the process by which experience becomes knowledge." Teacher talk should help students fulfill the basic human needs of:

- A sense of autonomy
- A sense of belonging
- A sense of competence
- A sense of meaningfulness

The first three are quite well established in research on Self Determination Theory (see, for example, work especially by Edward Deci and Richard Ryan). The last is supported by work in positive psychology (see, for example, work by Martin Seligman).

Teaching children to think together

Teaching children to think together (not just alone) is important because: compared with controls, children	Teaching to think together is helped by: Start with engaging problems or discussions in which
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<p>taught how to think together, show an increase in:</p> <ul style="list-style-type: none"> Reasoning ability Comprehension Expressive language Creative thinking Examining assumptions Willingness to speak in public Willingness to listen to and consider others' ideas Frequency of providing reasons or evidence for their view Quality of interpersonal relationships Confidence, self-esteem and persistence Supportive group interactions (along with a reduction in negative comments) <p>(See work especially by Neil Mercer (accessible books include: <i>Interthinking: Putting talk to work</i>; <i>Words and Minds: How we use language to think together</i>; <i>Exploring talk in school</i>).</p>	<p>children are likely to disagree or bring different perspectives (see dialogic classrooms below). Help <i>children generate</i> rules for their conversations, e.g. for problem-solving discussions:</p> <p>An example from problem solving might be:</p> <ul style="list-style-type: none"> We listen, and respect each others' ideas Everyone gets to be heard We give reasons when we agree or disagree, and we ask for reasons when people forget to give them. Everyone is responsible for group decisions, so we try to agree. <p>Help them reflect on their discussions through the lens of the rules they've created to improve their ability to participate effectively.</p>
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When children are thinking together about books dialogically (bringing together multiple perspectives), they use strategies publicly and those strategies are taken up by others. In research on reading comprehension by Ting Dong and colleagues, the time to the first use of any particular strategy in a discussion is about 6 minutes. Time to second use, about 3 minutes. Time to third use about a minute and a half. By the time a strategy is used 6 times in a discussion it is being used by nearly half of the students and if it is used 8 or more times, nearly three quarters of the students.

Language and strategies for building productive learning communities

<p><i>Language and strategies for building symmetrical power relationships and mutual engagement:</i></p> <ul style="list-style-type: none"> Ask open questions – ones that could have multiple answers Use uncertainty markers: maybe, perhaps, I wonder Invite multiple perspectives: “Are there any other ways to think about that? Any other opinions?” “Can anyone push back against that?” Offer ample wait time No judgment of ideas – yes, good, well..., right. Practice with turn-and-talks Do not repeat children’s good ideas so the class can hear them (then they know they only have to listen to you). Instead, ask children to report to the class what their partner had to say rather than what they had to say. Remind children to speak directly to each other rather than through you Position the students in a circle so they can speak and listen to each other and see each other’s reactions. Arrange for class members to manage turn-taking without you (perhaps calling on each other, etc.) 	<p><i>Classroom language for helping children learn how to think together and value doing so:</i></p> <ul style="list-style-type: none"> Can we build that idea bigger? I notice Laurel that when he was talking it sort of jogged your mind – what were you thinking? Make sure each person has a chance to say something so that your learning grows from each other. When you put those two ideas together for us, it helped us to understand that... I heard each of you sharing your ideas with your partner. These great ideas will help us to understand the story better! Building a conversation: <ul style="list-style-type: none"> I wonder, perhaps, I think That’s like I agree with you (because) I disagree with you (because) I can add on (I agree, and) I have evidence What do you mean? I’m confused. What are you thinking? What could we do about that?
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<ul style="list-style-type: none"> Position yourself physically as much as possible at the same level, and either in the circle or outside it. 	
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Significance of such Dialogic Classrooms:

“Students recalled their readings better, understood them in more depth, and responded more fully to aesthetic elements of literature than did students in more typical, monologically organized classes” Dialogic classrooms overcome the potential disadvantages of SES, track, race, and ethnicity. (Based on extensive research by Martin Nystrand (2006) and his colleagues).

How and Why to Expand Social Imagination (also referred to as Theory of Mind)

<p><i>Classroom Language to Expand Social Imagination:</i> Use mental verbs and mental state language, particularly in the context of other people’s minds. For example:</p> <ul style="list-style-type: none"> I wonder what she’s thinking right now? How do you think she feels? Why do you think she feels angry? If you were in his position, what would you be feeling right now? Show me with your face how he feels. 	<p><i>Children with a stronger social imagination:</i></p> <ul style="list-style-type: none"> Are more able to understand complex narratives, idiomatic expressions and irony Have more positive social skills, Are more socially cooperative, Have larger social networks, Are viewed more positively by peers, Misbehave less at home and school, Have fewer angry responses in personal interactions. Have stronger moral development Have better self-regulation
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This is based on extensive work in a range of different research domains including Judy Lysaker, Janet Astington, Charles Fernyhough, Raymond Mar, Keith Oatley, and many others.

Some language choices to reconsider around praise and feedback

Some language has more leverage in influencing people’s behavior because it points people toward particular forms of theorizing. Consequently we have to think carefully about the praise and feedback we use with children (and each other). Remember that when children are engaged in an activity, praise only distracts them from the engagement and risks shifting their goal to pleasing you. Turn children’s attention to the successful parts of new things they are trying, and how they are doing them. Focus their explanations on process-strategies and effort, not on personal traits. In general, remember that it is not praise that is central, but the information that a strategy was successful, what it was, and what it accomplished. Pointing out that “I like the way you figured out that problem by yourself” provides the child with an agentive narrative – a sense of independence. However, at the same time, the “I like the way you...” part is a distraction and sets the goal of pleasing you. Consider “When you..... you figured that out by yourself (or by yourselves).” That’s probably enough. Sometimes it’s good to add, “can you think of another way you could have figured it out?” which builds flexibility. If you feel you need to add some praise on top of that, you could add “Nice job” which, although it judges, doesn’t open a fixed frame.

Avoid	Possible Alternatives	Logic
Person-criticism like, “I’m disappointed in you.”	“Maybe you could find another way to do it.” “You didn’t really get a chance to fix that yet.” “How could you do it differently?”	Reduces the risk of undermining a feeling of respect and viewing problem as a trait. Turns attention to solving temporary problems and building agency/resilience.
Person –praise like, “I’m proud of you” or “You’re good at this”	“How did you do that?” “You found a good way to do it. Could you think of another way.” “You must have worked hard at that.”	Person praise on success encourages child to infer person criticism on failure (even if you don’t say it) which undermines resilience. Alternatives turn attention to process-strategy and effort, and build resilience.
“You’re really smart”	“You really worked hard” “You used some great	Smart (as a trait) is not something you have control of, effort and process are. Unsuccessful events invite the child

	strategies. That must have been fun”	to attribute the trait ‘not-smart.’
“That’s what good readers do.”	“That’s what readers do.”	‘Good reader’ (trait) opens possibility of children ‘bad-reader’ when unsuccessful. ‘Readers’ is a more accommodating identity.
“I like the way you...”	“Look at how you did that, you....” When you did x, y happened.	Keeps child in control, focuses on the process (and preferably the consequence), and doesn’t shift the goal towards pleasing the adult.
“Good girl.”	“Thanks.”	Judgment offers an asymmetrical power relationship, “Thanks,” not only offers a symmetrical power relationship but encourages community contributions. “Good girl” is global praise and invites its opposite when the child is not successful.

These suggestions are backed by a lot of research most popularly by Carol Dweck. If you want accessible reads on this, check out her book *Mind Sets*. More practically for classroom life, read (dare I say it) *Opening Minds*, by me.

The Bottom Line:

1. Teachers’ language is their most powerful tool.
2. Getting children engaged is job one. It requires that children’s activities are meaningful and personally relevant, and that they have meaningful choice (have a sense of autonomy). It also requires that children are able to participate and have a sense of competence. The more open the possible ways of participation, the more possible it is for children to feel competent. The more narrowly we define the activity, the more we exclude.
3. Children’s academic development and their social development are inseparable. We need to teach children how to think together and live together.
4. We have to take seriously the fact that the adult is not the only teacher in the room, and distribute teaching.
5. Multiple perspectives and uncertainty (without stress) are engines of intellectual engagement.
6. Social imagination is a hub of social and academic development and self-regulation and is grounded in conversations that use mental state language and mental verbs.
7. Teachers and students are human beings. Consequently, they need a sense of autonomy, belonging, and competence, and they need their work to be meaningful and engaging. Focusing on engagement changes everything.

For more details on this topic (and a more readable form), read:

Peter Johnston (2012). *Opening minds: How classroom talk shapes children’s minds and their lives*. Portland, ME: Stenhouse.

Peter Johnston (2004). *Choice Words: How our language affects children’s learning*. Portland, ME: Stenhouse.

On the dyslexia issue.

I mentioned that the scientific community is somewhat divided over the matter of dyslexia. The International Literacy Association put out a research advisory on the subject of dyslexia mainly because state governments in the USA were being pressured to enact legislation to require a heavy emphasis on dyslexia in teacher training. Indeed, such legislation has passed in a number of states. At least in one state, teachers in training were to spend more time learning about dyslexia than about teaching math and science. The advisory, which is brief, can be found at: <https://www.literacyworldwide.org/docs/default-source/where-we-stand/ila-dyslexia-research-advisory.pdf>

The International Dyslexia Association posted a response to the advisory, which can be read at: <https://dyslexiaida.org/ida-urges-ila-to-review-and-clarify-key-points-in-dyslexia-research-advisory/>

You can read the International Literacy Association’s response at: <https://www.literacyworldwide.org/docs/default-source/where-we-stand/ila-dyslexia-research-advisory-addendum.pdf?sfvrsn=4>

These are relatively short and accessible reads and should give a good sense of the nature of the dialogue.

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