

We have a thing called “Learning Science”, but nothing called “Teaching Science”. While we often hear that where there is no learning there is no teaching, in reality we engage in teaching and often study it with no evidence that it is leading to learning. This is, I think, largely because “liberals” respect learning more than they respect teaching and tacitly believe the best learning takes place when teaching takes a back seat. This is largely, I believe, a romanticization of children. “Conservatives” tend to want to stress teaching as adult control and dominance and thus, often elide it with indoctrination.

We all largely believe (or act as if we did) that “real” teaching requires learning, but we do not believe “real” learning requires teaching. But it does. It will not do to spend money or effort on creating better learning spaces for every child, if we do not also spend money or effort on creating better teaching for every child.

What is teaching? I will define it in terms of acts. Overt or direct teaching is made up of one or more of the following acts: 1) just-in-time (when it can be put to use) or on-demand (when learners know they need a larger block of information) telling; 2) modelling and illustration, often with talk or devices that focus the attention of learners; 3) actionable feedback that lets learners know or make a good guess about what to do next in a trajectory of growth; 4) designing of environments, tools, media, and participatory structures to guide learners via language, modelling, illustration, and feedback. Good teachers constantly seek feedback from learners and the learners’ actions to know whether what they are doing is successful and to garner ideas about what is the best thing to do next. In a sense, learners become teachers of teachers in good teachers’ classrooms.

Here is the meaning that “teaching must lead to learning” should, in my view, actually have: teachers need to motivate students to actively process and engage with what the teacher is doing and the ideas the teacher is teaching and teachers need to be sure that they are getting such active processing and engagement. Active processing and engagement is not the same thing as “good behavior” or looking as if one is “paying attention”.

I will count as a teacher anyone who purposely engages in one of the acts I have defined as teaching in order to help someone learn something. This could be a parent, teacher in school, peer, or a well-designed environment, media, tool or technology.

Good gamers, when they are playing a video game, actively think about the design of the game and how they can leverage it for their own progress. The game is very much teaching, but it is well-designed to get feedback from the player as to whether the player is actively engaging with the game.

We often romanticize out-of-school learning by capturing the moments where certain kids excel and leaving out the past history of teaching that has helped lead to this excellence. We make something look easy that was initially hard. Good and effective learning of something new is hard and that is why we need teachers and teaching.

The goal of teaching is the production of a “deliberate learner”, which could just as well—even better—be called a “deliberate teacher”. When people become, in a domain, deliberate learners, they are teachers of themselves. They are not learning and making further progress just by practicing or engaging in activity (if this is all they do, they may well just stay at the same level of excellence forever). They are using language, modelling and illustrating, feedback from self and environment, and actively designing their own environments and tools for new challenges that can lead them towards greater mastery. If and when things get too hard again, they go look for a teacher. Good teaching creates deliberate learners/teachers. We should not forget that when we look at the amazing things such deliberate learners/teachers do.