Conditions for Literacy Learning: Why Do Some Students Fail to Learn to Read? Ockham's Razor and the Conditions of Learning

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Why do some students fail to learn to read? Ockham's razor and the conditions of learning

Brian Cambourne

Teachers have asked me some challenging questions; typically they relate to the nitty-gritty details of applying the theory of learning I advocate in their classrooms. Teachers have also asked questions that were totally unexpected ones I could not immediately answer. Some years ago a newly graduated teacher asked me this question: "Isn't one test of a good theory its ability to explain both sides of a phenomenon?" I failed to make the connection she intended and asked her to clarify. She looked thoughtful for a few seconds and rephrased her question thus:

> I understand how the conditions of learning you've just described might be used to explain successful learning, but my mentors at university also told me that if it's a good theory it should also be able to explain why learning fails to occur. I remember that during one of my university courses we had a long discussion about two things. One was the fact that many explanations of why some kids seem to fail to learn to read seem to be couched in terms of deficit theory; that is, they fail because they are deficient in some esoteric neurological way, or that the culture they come from is somehow deficient. The other thing our professor discussed in this class concerned a certain William of Ockham and some principle of his called "Ockham's razor." Have you ever tried to apply this principle to the theory of learning you advocate?

I looked sheepish and had to admit I hadn't. I silently resolved to address the issue as soon as possible. I learned that William of Ockham was an English monk, a philosopher, and theologian who developed one of the key principles of scientific theory building. What can be done with fewer assumptions is done in vain with more. In modern jargon the acronym KISS (Keep It Simple, Stupid) would be a loose paraphrase.

Later I posed this teacher's question to a group of research students (all practicing teachers) and asked them to explore it. Here is what emerged from their efforts.

Why do seemingly normal students sometimes fail to learn to read?

Seemingly normal students fail to learn to read (or write) for the following reasons:

1. They get faulty demonstrations of how to read or write, or of how they are supposed to use reading or writing.
2. They are exposed to highly effective demonstrations, but their engagement with them is at best very shallow, at worst nonexistent.
3. They don't engage (or they engage at very shallow levels) because they don't expect to be able to read or write effectively. This in turn is because the language and discourse in their learning settings convey the constant message that learning to read or write is too difficult, complex, or irrelevant for learners like them.
4. They get feedback on their underdeveloped attempts to read or write that carries the wrong message.
5. They will not or cannot take any responsibility for their learning.
6. All of the above.

Let me elaborate on reasons 1 to 5.

Reason 1

Demonstrations are a fundamental prerequisite of learning. This is especially true of behaviors like talking, reading, or writing, and I am unaware of any learning that is possible without demonstrations of some kind. *One cause of faulty or ineffective learning could be attributed to ineffective or faulty demonstrations.* My research students identified three broad categories of such demonstrations: (a) incorrect demonstrations, (b) inadequate demonstrations, and (c) thin demonstrations.

Incorrect demonstrations give the potential learner wrong information. If, for example, one believed that effective readers needed to know and understand that the end product of an act of reading should *not* be semantic or syntactic nonsense, then using materials with the kind of text structure shown in the following example from Rasmussen and Goldberg (1964) would be considered an incorrect demonstration.

I ran.
I ran to the pan.
Nan ran.

Nan ran to the pan.
Nan ran to the tan pan.
Nan can fan.
Can Nan fan the pan?
Can Nan fan the van?
Can Nan fan the man?
Nan can fan the man.
(pp. 10–11)

These teachers argued that privileging this kind of text in a beginning reading program demonstrates the following: It is legitimate to read and produce semantic nonsense, there is little need to monitor the sense or plausibility of what one is reading, and one need only focus on the graphic clues of the text.

Smith (1982) argued that demonstrations are both artifacts and actions. Examples of inadequate demonstrations, which are also actions, are the remedial strategies that teachers use with students who seem to be falling behind. Research into the miscues produced by so-called dyslexic or disabled learners clearly shows that certain types of miscues can be directly tracked back to the remedial strategies (i.e., actions) to which they had been exposed (Cambourne & Rousch, 1981; Rousch & Cambourne, 1979). An example would be the 9-year-old severely disabled reader who sounded out words from right to left. A close analysis of his case history showed that his remedial teacher had provided literally hundreds of demonstrations of this technique. Called The Duffy Method in Australia, it was developed by a Monsignor Duffy for the Catholic school system in the 1960s (Cambourne & Rousch, 1981).

Another example was the reader who applied the strategy of sounding out the individual letter sounds (with no attempt at blending) of words that he could not instantly recognize. For example, he regularly attempted words like *town* by sounding out *tuh-o-wuh-nnn*, with no attempt to blend the middle digraph into an *ow* sound. A close analysis of his case history showed that his remedial teacher had used a program called DISTAR in which this technique is demonstrated often in the initial stages.

Inadequate demonstrations provide only part of the information a learner needs to read or write effectively. In essence it is a fragmented demonstration. For anyone who believed that effective readers and writers must be able to discover how the subsystems of written language connect to create meaning, any attempt to fragment language into a series of subskills taught in isolation from the full act of reading and writing would constitute an inadequate demonstration.

Teaching phonics as a separate subject, by pulling the grapho-phonic system free from the complex web of other linguistic systems, knowledge, and processes with which it interacts to construct meaning, is a common example of an inadequate demonstration. So is the teaching of spelling or grammar in similar ways.

Thin demonstrations do not make explicit and visible many of the invisible, implicit processes and the tacit knowledge that underpin effective reading and writing. A teacher who *reads* out loud but neglects to (occasionally) *think* out loud (to make visible how she or he deals with blockages or unknown words) is demonstrating what reading can be used for (e.g., entertain or inform), but not how it's done. Hence the demonstration is considered thin.

Reason 2

Potential learners can be in classrooms where teacher demonstrations are of high quality, but many of them will not learn to read or write effectively. *Potential learners must engage with demonstrations if they are to learn from them.*

The concept of engagement belongs to Smith (1982). It's a compelling concept, especially when trying to explain learning failure. It suggests the clutch mechanism of a car engaging the motor; the clutch connects the engine's power to the drive shaft, and this sets the car in motion. If the clutch does not engage properly, all that results is useless revving of the motor; the car does not move. Unless learners engage with the demonstrations provided by the persons or artifacts available to them, it is highly improbable that such demonstrations will set learning in motion.

Given these principles, it is reasonable to assume that many unsuccessful learners simply have not been convinced that it's worth engaging with the demonstrations of reading they have had. I find this by far the most satisfying explanation for the failure of many Aboriginal children to learn to read. If one comes from a culture that has a 50,000-year-old oral tradition, one might need to be convinced that engaging with demonstrations of an imposed semiotic system (the invading culture's written language) is worthwhile.

Reason 3

The link between expectations, self-esteem, and learning has been well established in the literature (Cohn & Kornelly, 1970; Rosenthal, 1968; Sebeson, 1970). One principle clearly emerges from this literature: *Expectations, be they our own or those of others with whom we have formed a positive bond, are powerful coercers of behavior.* We usually achieve what we expect to achieve (or are expected to achieve by others); we fail when we expect to fail (or are expected by others to fail); we are more likely to engage with the demonstrations by those whom we regard as significant and who hold high expectations for us.

The evidence from the literature on self-esteem and expectations strongly indicates that the majority of failed readers have low expectations of themselves as readers and writers. Work by some of my former research students (Lowe, 1986; Martin, 1989; Murik, 1992; Owens, 1989) has shown that the origins of these low expectations can often be traced back to classroom experiences that labeled children as failures or potential failures. The grouping or streaming policies, which many schools and teachers implement (the wombat/buzzard group syndrome), and the withdrawal-for-remedial-attention policies, which many schools pursue, fall into this category of practice.

Reason 4

Successful learning is based on social interaction. The process can be described in these simplistic terms: Experts and novices interact; novices try their developing skills and knowledge out; experts give feedback and direction, which provides a kind of learning scaffold; and each novice's performance gradually approaches the target level.

Learning is less successful when feedback gives the wrong message. The nature of the expert's response is crucial in the learning process. If a response continually communicates negative messages about the novice as learner, or about learning performance, then the novice is likely to cease engaging with future demonstrations of what he or she is attempting to learn. Furthermore, if the scaffold provided is inadequate, insufficient, narrow, or inappropriate, then the novice is denied the information necessary to improve performance.

Reason 5

Taking responsibility means being able to make decisions about one's own learning. *Some learners will not or cannot take responsibility for their learning.* They become what I have called elsewhere "dependent learners" (Cambourne, 1988). Lowe's (1986, 1989) work with adult readers and with the use of tinted lenses as a remedial reading therapy indicated that many older persons with literacy problems find it difficult to assume some degree of control over their own learning. Many of the adults she worked with in her 1986 study adopted the attitude, "Here I am, I can't read and write. Fix me up, but don't ask me to do any homework, or practice, or even turn up regularly." She found that she could begin to achieve success only when she forced them to accept some responsibility for their own development. The results of her 1989 study strongly suggest that many who were prescribed tinted lenses subconsciously gave the lenses the responsibility for "fixing them up." One clear finding from these data is that people who have control of their learning taken away from them often become ineffective learners.

Final comments

In some previous columns in this journal, I've described how complex learning regularly occurs outside those formal, institutionalized educational settings we call schools. I've tried to explain this complex real-world learning by positing a theory of cultural learning based on the interactions between a genetically predetermined organ of learning (the human brain) and a set of ecologically predetermined conditions that seem integral to the social evolution of human cultures. I've argued that over the long period of evolution each of these sets of factors has mutually shaped the other. The result is a human brain that seems to learn best when certain ecological factors are present in the learning setting.

This month I have reported the results of applying to my theory a principle first espoused by William of Ockham some 700 years ago. The results support the notion that this theory is robust enough to explain both the successful and unsuccessful learning of reading. William of Ockham would probably have agreed that when learning fails to occur in seemingly normal people it can be explained as a breakdown in the processes that underpin effective learning, rather than as a theory of personal or cultural deficit.

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