



Oral Language Learning: *A Stunning Intellectual Achievement and What It Reveals About Human Learning*

by **Brian Cambourne**



Brian Cambourne is presently a Principal Fellow at the University of Wollongong, Australia. He began teaching in 1956 at the age of 19 and spent nine years teaching in a mix of one-room schools and primary classrooms K-6 for the New South Wales Department of Education. In his tenth year of service for this department he entered the groves of Academe as a teacher educator at Wagga Wagga Teachers' College.

He completed his Ph.D. at James Cook University in North Queensland, and was subsequently a Fullbright Scholar and a Post Doctoral Fellow at Harvard. He has also been a Visiting Fellow at the Universities of Illinois and Arizona. Since completing his doctoral studies (1972), Brian has been researching how learning, especially literacy learning, occurs. He has conducted this research in the naturalistic mode he prefers by sitting and observing in classrooms for many hundreds of hours. His latest book [*Made for Learning: How the Conditions of Learning Guide Teaching Decisions*](#), co-authored with Debra Crouch, captures Brian's 60 years of research and theory building.

As a young, inexperienced teacher, I was continually surprised by students who couldn't seem to learn or understand the simplest concepts associated with reading, writing, spelling, or math that I tried to teach them. Yet somehow, in the world outside the classroom, they could not only learn, but also, could apply complex knowledge and skill. Even students who had been classified as "learning disabled" or "intellectually handicapped" would continually surprise me. One twelve-year-old boy, to whom I couldn't teach even the simplest aspects of arithmetic, was almost unbeatable in card games which required keeping count of cards which had been played. He also displayed an intuitive ability for working out the probabilities of cards held by others or still in the deck.

Then there were boys who couldn't seem to remember how words were spelled, or their "times tables" facts from one day to the next, but who could remember and recount the year by year scores and batting averages of their cricket heroes. As well I encountered many immigrant children who would begin Australian schooling with no English, to whom I could not seem to teach even the simplest rules of grammar. But, in the world outside of school, these children could translate across two (sometimes three) languages for their non-English speaking parents

as they were signing rental leases or applying for a driver's license, or social security allowances, and so on.

I was equally surprised by students who displayed conceptual and procedural knowledge, which I had not previously taught them. Conventionally spelled words which I'd never taught or drawn attention to would just "appear" in their writing. So, too, would punctuation conventions such as speech marks, capital letters, paragraph indentation, and full stops (known as "periods" in the United States).

Both groups of these students could obviously learn. They consistently demonstrated control of a multitude of complex skills and facts that enabled them to do a range of complex things, both inside and outside the typical school setting. Furthermore, they seemed to have learned these things without obvious effort or awareness of what they were learning, or even that they were actually learning.

This wasn't supposed to happen. It conflicted with what I'd been taught about "learning" and "intelligence" in my pre-service teacher education courses. According to my pre-service mentors, "poor learners" were just that—"poor learners". Such poor learning should have manifested itself across any and all learning they attempted. If they couldn't learn the simple things about reading, writing, spelling, maths, etc, that I tried to teach them, they certainly should NOT have been able to learn anything more complex in the outside world. Nor should they have been able to learn "school-type" skills and knowledge without these being explicitly taught or at least alluded to.

Because of this theoretical confusion, my professional self-esteem was seriously challenged. The lessons I spent countless hours diligently preparing were based on a theory of learning that was (allegedly) "scientifically based". Hadn't psychology conclusively proven that both human and animal learning was merely a form of habit formation (Cambourne, 2010)? That it could be scientifically controlled and manipulated if certain principles of stimulus presentation, reinforcement, and punishment were rigidly enforced?

After many years of compliant acceptance of this confusion, I decided to study more closely the different types of complex human learning which regularly occurred outside school settings (Resnick, 1987). Perhaps I could glean implications for my classroom practice by studying examples of complex, "out-of-school" learning?

A Brief Summary: What I Learned About “Out-of-School” Learning

While I learned a great deal about the complex learning which children and adults are capable of outside the formal school setting, (Cambourne, 2009) two facts stood out:

- Learning one’s native language is a universal example of complex “out-of-school” learning.
- Learning the oral language of the culture into which one has been born is a stunning intellectual achievement of incredible complexity. It involves fine degrees of perceptual discrimination. It depends upon abstract levels of transfer and continual generalization. It demands that incredible amounts be stored in memory for instant retrieval. It necessitates high degrees of automaticity of very complex processes. Despite this complexity, as a learning enterprise, it is almost universally successful, extremely rapid, usually effortless, painless, and durable.

I realised that the range of cognitive skills and abilities needed to learn to talk were the same skills and abilities that my students needed in order to learn what I was trying to teach them in reading, writing, and spelling. Didn’t literacy learners need to discriminate fine degrees of similarity and difference between the visual and auditory shapes and sounds associated with reading, writing, and spelling? Didn’t they need to be able to generalise, transfer abstract grammatical, morphological, and phonological rules and exceptions across all the meanings they constructed while reading, writing, or spelling? Didn’t they have to store this enormous range of semantic, syntactic, graphophonetic knowledge in their memories—and retrieve and use this knowledge quickly and automatically?

Therefore, since all the (so-called) “poor learners” I’d met in all the classes I’d taught had learned to talk, (some were bilingual), shouldn’t they have also had the full range of cognitive abilities to learn the much simpler literacy skills and knowledge I was trying to teach them?

One conclusion I drew from these realisations was that anyone who had learned to talk the language of the culture into which they’d been born has sufficient cognitive “power,” (“abilities,” “skills,” “machinery,” “know-how”, etc.) to learn to read and write.

How could my students master something as complex as learning to talk so successfully, so easily, and so painlessly when I couldn’t teach them much simpler things? Could it be that (horror of horrors) the “scientifically based” theory of learning I used as a framework for the lessons I prepared was flawed? I decided to do some research which might help me find out. Little did I realise I would be engaged in this research for the next five decades.

A Condensed Summary of Fifty Years of Inquiry

Initially I spent almost three years unobtrusively ‘bugging’ (with a wireless radio transmitter) and generally ‘spying’ on urban and rural toddlers as they interacted with parents, siblings, peers, neighbours, relatives, teachers, and strangers in the course of their waking days (Cambourne, 1972).

The data I collected comprised whole days of audio recordings of the language which these children used and/or overheard as they interacted with the various agents they encountered in natural, experimenter-free environments from when they awoke in the morning till they went to bed at night. These data were transcribed into thousands of pages of written text. These “raw” language data were complemented by “specimen records” (i.e., rich field notes) which described both the non-linguistic behaviour and the contexts in which the language occurred (Barker & Wright, 1954). Ecological psychologists describe this range and type of data as a “rich archival lode” which can be “mined” again and again for different purposes (Heft, 2001).

In the course of the next two decades I re-mined this archival lode several times. Once was to map and describe the extent, nature and patterns of verbal interaction children engaged in across different settings (Cambourne, 1972). On another occasion, I mapped and described the range and types of metaphors children used and/or overheard (ARGC Report, 1980, Australian Government).

The third (and most significant) “re-mining” venture I undertook was to re-analyse these data to see if I could identify any patterns of possible ecological, social, emotional, cultural, (or any other) “factors” or “conditions” which MIGHT be associated with or support the development (i.e., “learning”) of language.

About three years later I’d eventually identified a tentative set of such “conditions”. (Cambourne, 1984). During this period some academic colleagues challenged my tentative theories which forced me to revisit and check them; Luke, et al (1989) and Cambourne (1989).

I also continually cross-checked and modified these tentative “conditions” against the ever increasing research and theories of language development that were constantly being published in the scholarly journals of the time. I took this tentative set of “conditions” to K-6 teachers in schools near my university and invited them to show me how they might put them into practice in their daily literacy sessions. I requested the privilege of being a participant observer of their efforts. Fortunately, most accorded me this privilege over the next seven years.

During this period I again used the methods of naturalistic inquiry (Guba and Lincoln, 1990) and ethnographic participant observation (Heath, 1983) to observe and document what happened in their classrooms. Instead of investigating oral language development in young children we were exploring reading and writing of elementary school students. I accumulated hundreds of more hours of video and audio records of teachers and students in classrooms. I had these transcribed into thousands of more pages of data. I continued to take field notes of the behaviour in these classrooms. I spent hundreds of hours retrospectively interviewing teachers and students about the content in the audio and video records and the field notes I took. I also

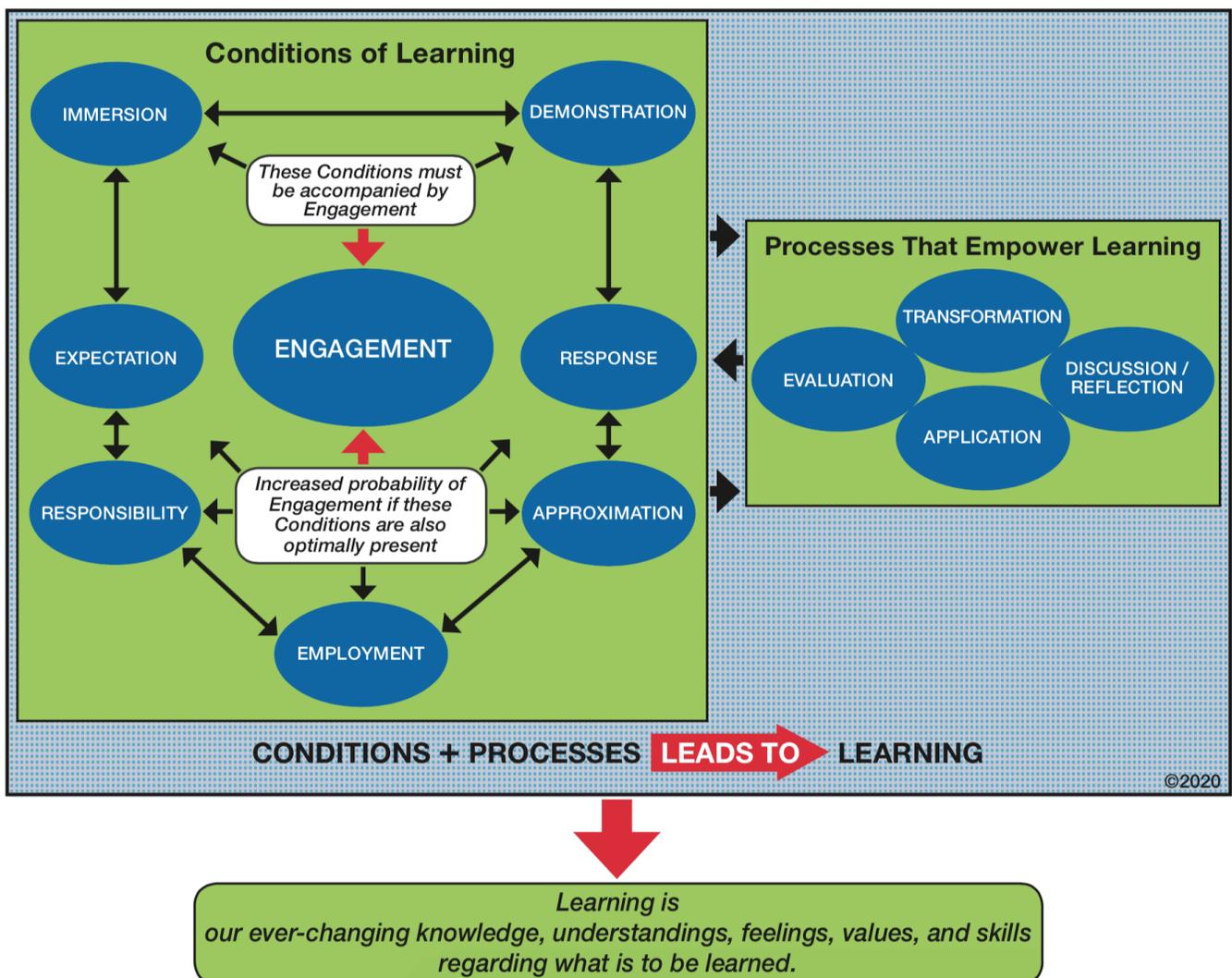
photocopied all the documents teachers and students produced in the course of the lessons I observed.

Seven years later I felt secure that I had an understanding of two issues I'd been trying to resolve for many years, namely:

- How cognitively immature human children could be so successful at learning something as complex as any one (or more) of the thousands of languages which are currently (or have ever been) spoken on earth.
- How to use what I learned from studying oral language learning to inform teaching practice.

Over the last 30 years, the description and representation of the Conditions of Learning has evolved and expanded. The visual below is the current image that appears in the book Debra Crouch and I have written, [Made for Learning: How the Conditions of Learning Guide Teaching Decisions](#).

The Conditions of Learning



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