

Siegfried Engelmann's legacy: teach first and ask questions later

NOEL PEARSON, The Australian, FEBRUARY 23, 2019

Last week the inventor of direct instruction, Siegfried Engelmann, died at his home near Eugene, - Oregon, in the US. The great American pedagogue was 87.

Among the lauded educational theorists of the 20th century — John Dewey, Jean Piaget, Paolo Friere and Lev Vygotsky — Engelmann was the greatest, if the most controversial.

His rich educational legacy is denied to too many schoolchildren because of the ideological stand-off between social constructivism and Direct Instruction. This is exemplified in the so-called reading wars between the exponents of whole language and the exponents of explicit teaching of phonics and phonemic awareness. The stand-off is between the exponents of inquiry and discovery learning by students, and teacher-led instruction.

I started focusing on this debate 20 years ago and began reading the evidence, visiting schools, talking to educators, theorists and practitioners and policymakers. I was persuaded by the evidence in favour of teacher-led, explicit instruction. I met Engelmann with a group of teachers and community education leaders from Cape York Peninsula in 2009.

That year the New Zealand academic John Hattie published *Visible Learning*, the most influential educational publication of the 21st century. Hattie's meta-analyses of the evidence of what works in school education confirmed the effectiveness of DI.

We decided to introduce DI into two schools in Cape York the following year.

So what is direct instruction?

The cornerstone of direct instruction is effective teaching. This means lessons are teacher-directed and teacher communication is careful and deliberate, aiming for transparency and the avoidance of unintended miscommunication.

Learning objectives are clear to learners, and lessons follow an established plan from beginning to end. There is clear intent in every lesson, in terms of what the teaching is aiming to achieve and what learning is sought to be achieved.

There is today a wide variety of explicit and direct instruction methods. These can be understood as comprising denominations under a broad church of explicit pedagogy. Teachers may prefer a particular denomination, but they share many basic commonalities.

Since the 1960s an array of explicit pedagogies has developed: these are derivatives of Engelmann's DI.

The elements of teaching practice were collated into a formal taxonomy by Barak Rosenshine in 1976, and derivatives included Anita Archer's explicit instruction (US), John Hollingsworth and Sylvia Ybarra's explicit direct instruction, Kevin Wheldall's MultiLit (Australia) and John Fleming's explicit instruction (Australia).

The core paradigm at the heart of these approaches is common: it starts with the teacher teaching. Engelmann called it "model, lead, test". Archer more colloquially called it "I do, we do, you do".

Engelmann's most fundamental insight was that the teacher teaches first.

And yet what is the instinct of every adult who faces a classroom, each and every time, almost without fail? To ask a question.

It is ingrained into classroom practice for teachers to first ask questions. Indeed, the prevailing pedagogy is "question and answer". Who knows this? Who can tell me that? What do you call this? Who can tell me why such and such?

Teach first turns the prevailing paradigm around to "provide answer and then ask question". Always. Teach first says that there can be no learning first, until there is teaching first.

Sure, some or many of your students may be able to answer your question, but what about the students who cannot? Either because they do not know — because they have not been taught yet — or are not confident about their learning yet?

Be fair to all of the students: don't ask them questions before you have taught the answer. The lesson is not a quiz, or a test to work out who is naturally smart, or who has prior knowledge thanks to their learning out of school or their family and social background.

Yes, the activation of prior knowledge is an important feature of effective teaching. But there are two ways to do this. The incorrect way is to ask questions first about the prior learning. The correct way is to remind and to recollect the prior learning.

Essentially, the rule about questions — particularly for novice, early-stage learners — is to avoid questions "out of the blue".

It is true that Socratic teaching — via questions — can be a powerful mode of learning. However, the rigorous logic and content knowledge required of a teacher utilising a Socratic approach is beyond those without the pedagogical skills of Socrates, and while possible with one-on-one teaching, is impossible with a classroom populated by a diversity of students.

Explicit pedagogy follows the same logical sequence of a Socratic approach, except that the sequence is taught up front in a transparent way rather than discovered through questioning.

Effective teaching through explicit pedagogy preferences teaching by the teacher before inquiry by the student. The evidence in favour of teaching before what is also called "discovery learning" is now clear. It is time to acknowledge and follow the evidence.

There is a place for inquiry, and it follows teaching.

The balance between teaching and inquiry in terms of emphasis and time must be properly calibrated. The latest evidence compiled by McKinsey & Company shows that the best-performing school systems in the PISA 2015 results are those in the Oceania region that have got the balance right between teaching and inquiry. The emphasis must make a more decisive shift to teacher-led instruction.

The "colour and movement" of inquiry learning, particularly the multimedia and multi-literacy - aspects of "rich tasks" and "culminating projects and performances", should not be confused with the learning progress. The evidence warns that too much inquiry learning involves students articulating what they know, rather than making learning progress through new teaching.

Thousands of Australian schools that are fair, remain fair and do not make progress to good because the balance between teaching and inquiry is not right.

Thousands more that are good, remain good and do not progress to great for the same reason.

Engelmann leaves behind a prodigious legacy in favour of teacher-led instruction in school education.

His jaundice was always for social justice for the students who needed teachers to teach them if they were going to have any chance for a future: African-American kids, Hispanic kids, poor white kids. His operating principle for DI was: "If the student has not learned, the teacher has not taught."

His 1981 Theory of Instruction, written with protege Doug Carnine, is the educational equivalent of Isaac Newton's Principia Mathematica or Charles Darwin's Origin of Species, a first-principles description of the science and logic behind direct instruction.

If ideology continues to deny the benefit of his pedagogy to the children who so require it, the science underpinning Engelmann's art of effective teaching will stand the test of time regardless.