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Introduction: The Illusion of Learning

*"Anyone who can handle a needle convincingly can make us see a thread which is not there."
(Gombrich. p. 171)*

On the occasion of Einstein's centennial there was a spate of articles and television shows dealing with aspects of his life and work. In one program the theory of relativity was "explained". At one point a well-known actor stood next to a table that had a conical depression at its center. On the table top were horizontal and vertical lines forming a surface pattern that resembled graph paper. The actor rolled a ball on to the table. It followed a curving path around the edge of the depression and, in time, fell in the hole at the bottom of the funnel-shaped depression. He spoke of black holes, curved space, light, matter and related aspects of general relativity.

It was a very engaging presentation. When he finished I felt that I understood more of Einstein's thinking on the topic -- at least for a while. It occurred to me later that I didn't comprehend anything about general relativity, black holes, or gravity; what I did understand had to do with tables, pool balls, and not much more. Like Dagwood in a Blondie cartoon, I found myself feeling: "That makes

sense, if you don't think about it." What had happened to me happens to many students and teachers: I had experienced the illusion of learning.

Einstein's theory of relativity is a mathematical representation of relationships among dimensions of the physical world. The television script, however, was limited to a physical illustration of a verbal analogy that suggested curved space: thus, the depression in the table, the graph lines highlighting its curvature. There were accompanying exclamations by the actor such as, "Ah, now I see!" But what was there to see?

The illusion of learning is not merely untested learning or passive, shallow, learning. Rather, it is the erroneous impression that one has learned something substantive or developed skills in making meaningful discriminations among ideas or phenomena. It is an illusion because a sense of self-satisfaction or an impression of comprehension has been evoked without any concomitant substantive change in the learner's skills or comprehension. Worse yet, one may have acquired bogus information.

Do both teachers and students with their efforts create, in some reciprocal fashion, a comfortable illusion concerning learning and achievement? We teachers have considerable skill in manipulating needles. My implicit question here concerns the existence of the thread.

Why Does It Happen?

There are several interacting factors that foster the development of illusory learning. The teaching of difficult material, anxiety concerning achievement, maintaining student morale, and wide-ranging student abilities are at least a few commonly occurring conditions that can function as preconditions. Understanding these potentiating elements can provide