Note 5 : Expliquer la science dans une classe

OGBORN J., KRESS G., MARTINS I. & MCGILLICUDDY K. (1996) *Explaining Science in the Classroom*, Buckingham: Open University Press, 13.

OGBORN et al. (1996) soulignent qu'un raisonnement en sciences physiques, en termes de pouvoir explicatif, est comme « la pointe d'un iceberg » : il surmonte une masse de théorisation implicite, qui donne leur sens à la fois à l'explication fournie et à la question posée.

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learned. Everyday explanations are in terms of familiar entities doing familiar things. Scientific explanations are often in terms of unfamiliar entities doing unfamiliar things, and the student is a stranger in an unknown world. It follows that much explanation in science classrooms is not the explanation of phenomena, but is the explanation of resources the student needs in order to explain phenomena. Instead of explaining how sound travels, the teacher explains how to think about waves.

This also means that explanations between teacher and student in science are often shaped by what scientific explanations are available. When the teacher explains about sound being a wave or about chemical bonds being electrical in nature, the explanation forms, as it were, the tip of an iceberg. Unseen, underneath and keeping it afloat is a large hidden mass of scientific explanation. The student experiments with dissolving sugar in water; underneath lies all the science of solids and liquids, molecular theory and thermodynamics. It is this, unknown to the student, which gives point to putting sugar in water at different temperatures.