Child Agency- Autonomous learners

**Opportunities for autonomous learning through Inquiry based Science Education**

Inquiry Based Science Education (IBSE) is a very child-centred approach to teaching, children learn through asking questions, reasoning, doing, investigating, and assessing evidence. It allows children to learn by gaining understanding rather than by memorising information (Pollen, 2009). Harlen and Allende (2009) found that moving from deductive to inquiry-based pedagogies increased the interest of children in science and the teacher’s willingness to teach it. IBSE encourages children to be more autonomous in their learning, developing their scientific skills (procedural knowledge) as well as their conceptual knowledge (understanding scientific theory).

Children in Irish primary schools are participating in hands-on science to some degree, but there remains an over emphasis on the use of more teacher-led, deductive approaches to science where “child-led, autonomous investigations appear to be used relatively rarely as a hands-on strategy” (Varley et al., 2008, p. 192). IBSE is not a new pedagogy, it is steeped in constructivism, especially the work of theorists such as Froebel, Piaget, Dewey, and Vygotsky.

This paper will outline the Action Research Self-study conducted in a primary school classroom with an aim to cultivate a community of curiosity, creativity and critical thinking and to provide children with opportunities to be autonomous and self-directed in their learning using IBSE. This qualitative research employed specific methodological approaches and tools to explore children’s attitudes to engagement in science and revealed significant findings that inform the teacher researcher’s practice and offers insight for the wider teaching community.

References:

Harlen, W. and Allende, J.E. (2009) Report of the working group on teacher professional development in pre-secondary school inquiry-based science education (IBSE) Interacademy Panel on International Issues.

Pollen (2009) France: La main a la pate. Retrieved from www.fondation-lamap.org/sites/default/ files/upload/media/Guide\_Designing%20and%20implementing%20IBSE\_final\_light.pdf.

Varley, J. Murphy, C. and Veale, Ó. (2008) Science in primary schools: Phase 1.Research commissioned by NCCA, final report. Dublin: NCCA.