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Using a Teacher Learning Community to Explore the Impact of Formative Assessment on Children's Reading

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Background

This paper reports on a study completed in 2009 that focused on a challenge of significant, current, international interest: the potential of a teacher learning community (TLC), as a vehicle of professional development, to bring about changes in teachers' understanding and use of Assessment for Learning (AfL), in order to improve children's school achievement. The project involved collaboration between a state organisation (the National Council for Curriculum and Assessment), a designated disadvantaged, junior school, in the Republic of Ireland and researchers from a third level institution.

Research Questions

The study investigated three research hypotheses:

1. A nine-month, school-based intervention, employing Assessment for Learning principles and practice, would make a quantitative difference (i.e., effect size) to the reading achievement of a target group of children when compared to a similar cohort not involved in the intervention;
2. There would be a discernible, positive impact on children's attitudes, motivation and approaches to reading;
3. Using the medium of a site-based, teacher learning community to provide a professional development programme on Assessment for Learning would have a positive impact on teachers' knowledge, skills and attitudes of/to AfL and, in turn, how they taught reading.

The terms Assessment for Learning and formative assessment were used interchangeably in this work and shared the extended definition introduced in the original short publication for teachers prepared by Black, Harrison, Lee, Marshall and Wiliam (2002). A teacher learning community (TLC) referred to a small, site-based, group of practitioners who met regularly to share, critically review and reflect on their teaching practice and pedagogical knowledge and then use this learning to actively improve their practice for the benefit of children's learning.

Methods

In designing the study, cognizance was taken of the ongoing international debate on what constitutes good research and evidence in education (Cochran-Smith & Lytle, 1999; Eisenhart, 2005; Johnson & Onwuegbuzie, 2004; Leech & Onwuegbuzie, 2007) and the repeated calls for evidence/science plus inquiries (Cochran-Smith, 2006; Eisenhart, 2005) that would examine the impact of CPD on teachers' classroom practices and children's learning (Darling-Hammond, 2000; Loucks-Horsley & Matsumoto, 1999) without bifurcating the integrity of the teaching-learning process (Marcos & Tillema, 2006). This gave rise to an examination of the contrasting ontological, epistemological and methodological assumptions on which research paradigms are premised and the decision being taken to employ a rigorous quantitative approach to test Hypotheses 1 and 2 and an interpretive/constructivist framework in respect of hypothesis 3. These decisions were premised on the belief that the employment of a mixed methods approach is inherently compatible with an interpretive/constructivist paradigm and the delivery of rich data anticipated by a science/evidence-plus philosophy.

Frame

Given the contrasting but complementary nature of the research hypotheses - the first two requiring a quantitative response, the third a qualitative one - a partially mixed, concurrent, equal status, quantitative/qualitative design was employed (Leech & Onwuegbuzie, 2007) to investigate the three research hypotheses pertaining to (1) children's reading achievement, (2) their motivation to read/employment of AfL strategies when reading and (3) teachers' knowledge, skills and attitudes of/to AfL.

As required by the quasi-experimental design employed to test the first two research hypotheses, pre- and post-intervention data were obtained by requesting children in both the control (n = 85) and experimental classes (n = 85) to complete four, group-administered, assessments, beginning in May-June, 2007. These included:

- Two reading tests, standardised in the Republic of Ireland;
- An attitudinal survey on reading motivation, developed in the United States;
- A scaled questionnaire on the use of AfL approaches in reading, developed by the researcher.

Data pertaining to Hypotheses 1 and 2 were analysed subsequently using parametric and non-parametric statistical tests.

In respect to Hypothesis 3, a range of research instruments were used to collect "rich data" (Alton-Lee, 2006) concerning teachers' individual and collective experiences of involvement in the TLC and their evolving knowledge, skills, attitudes and practices of AfL including:

- An AfL Audit Instrument;
- Teachers' Learning Logs;
- Video footage of teaching and Teachers' Video Review Sheets.

Data in relation to Hypothesis 3 were analysed in turn using a series of qualitative approaches including thematic analysis, audit trailing and member checking.

Research findings

Outcomes from the quantitative data with respect to the first two hypotheses indicated that there were no statistically significant differences in mean reading achievement between control and experimental groups following the intervention, although significant differences were found for reading strategies. The conclusion was drawn that Hypothesis 1 should be rejected and that Hypothesis 2 could be neither affirmed nor rejected.

The qualitative data relating to the third hypothesis revealed that important changes had occurred in teachers' attitudes and classroom practice over the duration of the intervention, as measured by changes in teachers' pre- and post-intervention responses to an AfL audit, triangulated with data from Learning Logs and the group review of the site-based CPD. A key finding to emerge, for example, was that during the course of the intervention, teachers increasingly embraced the use of video as a mediating artefact to facilitate critical review of practice and they attributed their openness to using video in this manner to their participation in a TLC characterised by trust and mutual respect. In turn, as reflected in individual Learning Logs and evidenced on video, despite the idiosyncratic, non-linear and highly individual nature of the learning experiences, teachers progressed from initial pre-occupation with self-concerns to consider higher order issues, such as how to exploit the teaching-learning process to maximise student engagement and achievement.

Hence, Hypothesis 3 was deemed to be affirmed.

In conclusion, it should be noted that, despite the proliferation of research on AfL internationally, this is the first research project of its kind to be undertaken in the Republic of Ireland. As such, it is

suggested that it is likely to be of interest to members of the research community generally, and those with expertise in assessment and teacher professional development, in particular.

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