



AN CHOMHAIRLE MHÚINTEOIREACHTA
The Teaching Council

Textbooks in the Constructivist Classroom

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Overview of Research

This research investigates the use of textbooks in primary schools and the implications of same for constructivist education. The research focuses particularly on Science education. It examines the rationale behind the use of prescribed textbooks, the extent of their use and how their use impacts on a constructivist approach to teaching Science in a sample of primary schools.

Rationale and Aims

This study sought to investigate the reasons why teachers used prescribed textbooks, their response to professional development courses that have sought to reduce teacher dependence on textbooks and the effect of new technology on textbook use. The impact of the use of textbooks was also examined particularly in relation to their effect on teaching approaches, specifically, on constructivism in education.

The research also set out to examine the 'literary elitism' and the 'idealised image' of the professional teacher associated with constructivism and sought to question the validity of some of the 'hostility to texts' and their use in teaching and learning.

The researcher had identified a gap in the research in this area and found no specific studies had been conducted in the Irish context. The study sought to make a contribution towards filling that gap. It sought to examine how the level of textbook use related to the delivery of the constructivist aims of the Primary Curriculum 1999.

Research Topic

This research sought to define 'textbooks' and examine their role in controlling and indeed creating the curriculum. It examined the role of the teacher in relation to textbooks, particularly Science textbooks, and the effect on teaching methods of an overcrowded textbook.

The NCCA Primary Curriculum review was cited to highlight the high levels of reliance on textbooks. Lack of teacher confidence and the fact that teachers are 'not scientists' was seen as one of the obstacles to be investigated.

The concept of constructivism was considered, specifically in relation to the teaching of primary Science. Group work, collaboration and formative assessment were considered to be relevant components of the constructivist approach. Teachers' understanding of the principles of constructivism was investigated and the manner in which these approaches were limited by textbook use was considered.

Design and Methodology

The researcher chose a mixed methods approach that employed both qualitative and quantitative methods. The quantitative survey investigated the use of textbooks in the classroom and attempted to gather information on the current level of understanding of constructivism among primary school teachers. The follow-on interviews sought to identify teachers' attitudes and beliefs around the use of textbooks and their relationship to constructivist approaches, as well as the impact of textbook use on the delivery of a constructivist approach.

A purposive sample of teachers was chosen for the research from four large urban schools. Two were mixed gender schools and two were single gender – one boys' and one girls' school. Teachers from two smaller mixed rural schools were also chosen. The mixed methods approach was also used to ensure triangulation. Interviewees were invited to view interview results and comment on their accuracy, thus ensuring further triangulation.

A total of 100 questionnaires was distributed with 75 responding. Thirteen teachers were interviewed. The data was analysed using Microsoft excel. The data was categorised into three themes – general introductory questions, textbook use and constructivism.

Findings and Recommendations

The level of textbook use was found to be very high (70%). Teachers felt that the advantages of textbooks (labour saving, streamlined planning, differentiation and teaching in multi-class situations) outweighed their disadvantages (limited information, prioritisation of comprehension over experimentation). Yet a large number of teachers interviewed felt that they would be quite happy to teach without a textbook because of the flexibility and control that allowed.

Lack of teacher confidence in the area of Science teaching emerged and was linked to teachers' own Science education and also seemed to be age-related with older teachers reporting less confidence. Time spent on Science education varied between 14 hours and 44 hours depending on the college involved. Practical work was not seen as a vital component in delivering the Science curriculum and teachers relied on the textbook more than on the curriculum guidelines. Teacher bias in favour of Biology was also found.

60% of teachers reported the use of constructivist approaches. However teachers reported infrequent use of children's ideas as a starting point for lessons. Time and safety were also found to be deterrents. Textbooks were not found to initiate or support constructivist approaches and seem in fact to have many shortcomings in facilitating the use of constructivist strategies in teaching primary Science. Reasonably high levels of constructivist approaches were reported despite this.