

Teaching argument writing to 7-14 year olds: an international review of the evidence of successful practice

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Background

Aims and rationale

The aim of our international systematic review of the research literature (Andrews et al. 2006) was to focus on the teaching of non-fiction writing; specifically on the writing of argument for 7-14 year olds. In the present article, a distillation of the original 2006 review is presented first, followed by a critical update and

discussion covering the last few years. Our aim throughout has been to review the research literature in order to shed light on practice and policy within the National Curriculum and the National Strategies in England.

Non-fiction writing has been the least favoured aspect of writing in the English curriculum for many years. The first and second versions of the National Curriculum for England in England made little difference to this position, The third version (DfEE 1999) set out a more balanced framework for writing and reading in which non-fiction began to take its due place. This position has been further consolidated in the most recent version of the National Curriculum (QCA 2007) which came into force for Year 7 pupils in the autumn of 2008.

The reason for such neglect for much of the 20th century was, and is that literature (especially fictional writing such as the novel) formed the ‘central civilizing presence’ in the English curriculum. Most English teachers, at primary or secondary level, still see a literary core to their practice, values and professional training, despite the National Strategies’ focus on language. The connection between personal development, the nurturing of the imagination and the study of literature is still very strong in the minds of English teachers; indeed, as research in the 1990s showed (Goodwyn 1992), the personal growth/literary model of English was still the dominant one for English teachers; and to an extent, still is (see Marshall 2000).

Definitional and conceptual issues

Under the meta-genre of non-fiction sits a wide range of documentary and other genres or text-types: the essay, the report, the manual, the travel book, the travel guide and brochure, reportage, diaries, etc. For the purposes of the present study, and for convenience’s sake, we have continued to use the term ‘non-fiction’

to cover this range. Non-fiction writing includes writing to inform, explain and describe (reports, explanations, manuals, prospectuses); to persuade, argue and advise (essays, reviews, opinion pieces, advertisements); as well as writing to analyse, review and comment (commentaries, articles etc).

The review reported in this article focuses on the second two of these categories, excluding writing to inform, explain and describe. We characterize the second two categories as broadly concerned with ‘argumentational’ writing – a term we use in preference to ‘argumentative’ because of the everyday and largely negative connotations of the latter.

Policy and practice background

Although our focus is on *writing* argumentational non-fiction, and although reading and writing are framed separately within the National Curriculum for English, we take it as given that reading and writing are reciprocal activities, particularly with regard to writing development. We also think that speaking and listening bear upon the writing of this kind of non-fiction, in that, for example, spoken forms of argumentation may well be better employed than they are now to help improvement in writing non-fiction.

It is important to note that the *functions* of writing at these secondary school key stages include persuading, arguing and advising, influencing the reader, analysing and reviewing, evaluating and presenting a case, as well as the more descriptive informing, explaining and describing. The distinction between ‘argumentation’ on the one hand, and ‘description’ on the other is an important one for our study, reflecting a high level but often simplistic categorization between imaginative, descriptive and argumentational writing which derives from 19th century rhetorical theory and which has influenced the writing curriculum ever since.

Argumentation includes skills of abstraction, conceptualisation and applied logic; description implies none of these.

Research background

There have been concerns about the status of non-fiction writing in the English curriculum in England since Barnes, Britton and Rosen's seminal study, *Language, The Learner and the School* (1969). Although primarily focused on talk, that study – along with Moffett's study in the USA, *Teaching the Universe of Discourse* (1968) - set the tone for a generation of research. It drew attention to the need for a balanced writing curriculum, leaning neither towards the dry, empty rhetorical genres that had become staple in the classroom in the 1950s and early 1960s, nor to the freer, more personal and 'creative' forms that had emerged in the 1960s. In the mid-1970s, two key works were published: the government report *A Language for Life* (DES 1975) and the research project *The Development of Writing Abilities* (1975), confirming the need for balance.

Research into argumentational writing took its lead within this context from Freedman and Pringle in Canada (1984) and Dixon and Stratta in England (1986). To focus on the development of thinking and practice in England, Dixon and Stratta trace their research back to 1979 when they began to study non-fiction and argumentational writing produced by young people for coursework examination for the then Certificate of Secondary Education (CSE). Working with the Southern Regional Examining Board, they discovered that 12-18 year olds were able to produce non-fiction work of high quality and imagination and with the inclusion of a 'personal voice'. Significantly, they were reacting against a predominance of narrative in the curriculum. Their book, summing up six years of development, was entitled *Writing Narrative and Beyond*.

At the same time, from 1979 to the mid-1980s, the Assessment of Performance Unit (APU) had undertaken the largest ever survey of writing in England and Wales by 11 and 15 year olds, and had come to the same

conclusion: that non-fiction writing was under-represented in the curriculum and that, in particular, 11 and 15 year olds were not very good at argumentational writing in relation to their abilities with other modes of writing. The dearth of opportunity for imaginative writing of these kinds, the dominance of narrative, the reliance on conventional forms like the essay and the assumption that non-fiction writing was ‘difficult’ (because of the conceptual load) manifested itself in the first version of the National Curriculum in English (1989) and in its later revisions (1995, 1999).

During the 1980s, running alongside the gradual emergence of argumentation alongside narrative and other more personal forms of writing, there was increasing understanding of the writing process itself. Such understanding is best represented in the work of North American and Canadian researchers such as Graves (1982) in his promotion and examination of documentary drafting and re-drafting by 7-11 year olds; and by Bereiter and Scardamalia (1987) in their development of writing process models. The basic principle of the pedagogic models that were developed was that by understanding the writing processes of accomplished (literary and non-literary) writers, processes and procedures could be established for novice writers. It was understood that whereas narrative writing was often accretive, non-fiction writing was more truly compositional, i.e. a question of ‘putting things together’ (com-posing) and thus highly suitable for planning and drafting. Wordprocessing packages conducive to such kinds of composition were useful because of the facility for moving around large chunks of text.

It was in order to determine the research base for effective teaching of argumentational writing to 7-14 year olds that we undertook the 2006 review; as indicated above, we have added a discussion of relevant studies up to 2009.

Review question and methods

Research question, scope and inclusion criteria

The core research question for the 2006 review was: *What is the evidence for successful practice in teaching and learning with regard to non-fiction writing (specifically argumentational writing) for 7-14 year olds?*

The review question looked for evidence of successful practice in teaching and learning with regard to argumentational non-fiction writing for 7-14 year olds. Therefore the relevant literature included studies that could be used to draw causal inferences, i.e. inferences that various practices (strategies and methods) in the teaching and learning of argumentational non-fiction writing can improve pupils' non-fiction writing. Case studies, explorations of relationships and other non-experimental designs were included only where there was an evaluation.

The scope of the review was limited to English as a first, second or additional language; to students in key stages 2 and 3 (ages 7-14); and to articles or reports written in the English language between the years 1990 and 2005.

To be included studies had to focus on the teaching and/or learning of argumentational non-fiction writing in English (as a first, additional or second language), to 7-14 year-old children, be experimental or qualitative research and be published or unpublished (but in the public domain) between 1990 and 2005.

Selecting studies for the in-depth review

Starting with studies published since 1990, 1630 papers were identified by initial searching. After de-duplication 1494 abstracts and titles were screened. Following a process that is described in detail in the technical report (see <http://eppi.ioe.ac.uk/reel>) the systematic map yielded 23 studies that met the inclusion criteria. In order to establish the highest quality evidence provided by the studies in the map, the inclusion

criteria were narrowed down according to study design. This was because, in order to demonstrate successful practice (the focus of our review), we needed to include only those studies which were able to establish the efficacy of an evaluated intervention. This means that we were only able to include quasi-experiments and true experiments because these are the best designs to establish effectiveness. Seven studies (Aulls, 2003; Cox et al., 1991; De la Paz, 1997; De la Paz, 2002; Gordon, 1990; Hallenbeck, 1999/2002; Sexton et al., 1998) were excluded from the in-depth review because they were not of a randomized controlled trial or controlled trial design (true experimental or quasi-experimental design). These studies could not be reliably used when addressing the research question as their designs did not control for temporal or regression to the mean effects, or for selection bias. This process identified sixteen studies for in-depth review, which are listed in the references.

The 11 studies rated of medium quality or above form the basis of the synthesis. It was decided to include only those studies judged by the authors to have an overall weight of evidence judgement of ‘medium’ or above on the basis that this quality of evidence could be relied upon in terms of the reliability and validity of the research. Criteria for weight of evidence are available in the full technical report. A study rated as ‘high’ would represent the highest quality of internal validity, be of a highly appropriate research design for our research question, and be highly relevant to the review in terms of the sample, context and measures. A study rated as ‘medium’ would be included, but caution would be urged in interpreting the results, as there were likely to be some limitations in the internal validity, the appropriateness of the research design, the relevance to our review, or the choice of sample, context and outcome measures. Similarly, studies in the intermediate categories between ‘high’ and ‘medium’ could have some shortcomings in one or more of the categories.

Table 1: Main characteristics and overall weights of evidence of studies included in the synthesis

Author, date, country	Study design	Age of participants	Overall weight of
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			evidence
Englert et al.,1991 USA	RCT	9-11 (Grades 4 and 5)	High
Ferretti et al. 2000 USA	RCT	9-12 (Grades 4 and 6)	High
De La Paz and Graham 1997 USA	RCT	10-13 (Grades 5, 6 and 7)	High to medium
Troia and Graham 2002 USA	RCT	9-11 (Grades 4 and 5)	High to medium
De La Paz and Graham 2002 USA	RCT	12-14 (Grades 7 and 8)	Medium to high
Graham et al. 2005 USA	RCT	8-9 (Grade 3)	Medium to high
Crowhurst 1990 Canada	RCT	11-12 (Grade 6)	Medium
Knudson 1991 USA	RCT	9-13 (Grades 4, 6 and 8)	Medium
Knudson 1992, 1994 USA	RCT	8-11 (Grades 3 and 5)	Medium
Reznitskaya et al. 2001 USA	CT	9-11 (Grades 4 and 5)	Medium
Yeh 1998 USA	CT	12-13 (Grade 7)	Medium

Table 1 shows the main characteristics of the studies included in the synthesis, ranked by their overall weights of evidence. All six studies rated ‘medium to high’ or above were randomized controlled trials. Three of the five studies rated ‘medium’ were randomized controlled trials and two were controlled trials.

Results

High-rated studies

Both Englert et al. (1991) and Ferretti et al. (2000) were rated ‘high’ overall in terms of weight of evidence.

Englert et al.’s (1991) study, ‘Making strategies and self-talk visible: writing instruction in regular and special education classrooms’ examines the effects of an intervention “that attempted to improve students’ expository writing abilities through an instructional emphasis on student dialogues about expository writing strategies, text structure processes, and self-regulated learning” (p337). The study was undertaken with 4th and 5th grade students, in the USA. The intervention consisted of training in planning, organizing, writing, editing and revising different text types. The writing process model is derived from a standard model that emerged in the 1980s in North America in the wake of work by Graves (1982) and Bereiter and Scardamalia (1987) on writing process, *viz* that the taught and learnt models should reflect the writing processes of experienced writers. It is also based on a specific programme, the Cognitive Strategy Instruction in Writing (CSIW) which was “designed to incorporate many features of effective strategy instruction, including the development of students’ metacognitive knowledge about writing strategies through an emphasis on teacher modelling of an inner dialogue for directing the writing process, scaffolded assistance...procedural facilitation...through the use of think-sheets, and peer collaboration in writing conferences.” (p342).

The emphasis on text structures focuses attention not only on the shape and structure of a piece of writing, but also on making the implicit structures explicit to emergent writers. The results of the study showed that students who were exposed to the CSIW treatment showed increasing understanding and command of the structures underlying text, as well as a growing sensitivity to their audiences and to their purposes in writing. One of the findings, for example, showed that compare/contrast texts were significantly easier for students to organize than explanations, although the reverse was true in terms of their writing voice and sensitivity to the audience. The implication is that managing the 'voice' in argumentational writing is more difficult, and identifying the audience is also more difficult, perhaps because of the relative formality of the task and the uncertainty over who is speaking/writing to whom.

One aspect of the results of this study was that students with learning difficulties performed neither better nor worse than those without such difficulties. This is an important finding in that, in the 1980s, students with learning difficulties were not often exposed to the complexity of a writing model like CSIW, it being assumed that they would progress more readily with programmed, limited and instructed procedures.

There are also suggestions in the paper that the skills learnt by the experimental group were transferable across the different types of writing undertaken: explanations, compare/contrast and 'expert writing'. The control group seemed not able to make such transfers across text-types.

The authors conclude that "the data from the present study suggest that instruction in the writing process and expository text structures can be effective when they are embedded in an instructional framework emphasizing teacher modelling, scaffolded assistance, procedural facilitation, peer collaboration, and the development of an inner language and vocabulary for talking about writing" (p369).

Ferretti et al. (2000), in a study undertaken in the USA, aimed to investigate "the effects of giving students an elaborated goal that included explicit sub-goals based on the elements of argumentation as compared

with a general goal to convince an audience to agree with their opinion” (p695). Specifically, 4th and 6th graders in the general goal groups were asked to write a letter to persuade an audience to agree with them on a position, whereas those in the experimental groups were asked to use the following explicit subgoals: a statement of their belief, two or three reasons for their belief, examples of supporting information, two or three reasons why others might disagree and why those reasons were wrong.

The 6th graders in the experimental group included more of the sub-goals and strategies in their writing and thus wrote more persuasively than their control group counterparts. The 4th graders wrote equally persuasively in both conditions and included equal numbers of argumentational elements in both essays. Again both students with and without learning difficulties appeared to benefit from the more specific instruction. The difference between the performance of grade 6 students and those in grade 4 was not attributed by the researchers to developmental differences; one explanation put forward by the study is that the difference may be to do with the combined effects of composing and at the same time meeting the elaborated (more specific) sub-goals; or the fact that 6th graders already have a more developed schema for oral and written argument which was reflected by the specific elements of argument that were used in the intervention.

The paper concludes that, overall, “normally achieving students and those with [learning difficulties] may benefit from instruction on goal setting” (p700) but the authors also suggest that the essays in themselves were not very persuasive, and only half (54%) of the sixth-grade students used rebuttals or alternative positions in their arguments. They suggest that “the provision of explicit goals, along with intensive, scaffolded instruction in cognitive strategies and self-regulatory strategies...may help all students write more persuasively.” (ibid.)

High- to medium-, and medium- to high-rated studies

Both De La Paz and Graham (1997) and Troia and Graham (2002) were rated ‘high to medium’.

De La Paz and Graham’s study aimed to examine the effects of dictation and explicit instruction in advanced planning on the writing of opinion essays by 5th, 6th and 7th grade students with learning difficulties. Students received instruction in either a) planning, where they were taught strategies for developing, evaluating and organizing ideas prior to composition, or b) comparison, where students were taught *about* essay structure, revised sample essays, and composed and shared essays with fellow students. Half the students in each group composed their essays orally, while the other half wrote their plans and essays. The most effective combination for these students was that of dictation (oral composition) and instruction in advanced planning (rather than teaching *about* argumentational structures), reflected in the fact that these students wrote more complete and qualitatively better essays than those in the other groups and conditions. These results were measured in a post-test and two weeks later, in order to gauge the sustained effect (or not) of the intervention.

Two further aspects of the results are worth reporting: that those students taught the advanced planning techniques (as opposed to those who were taught *about* essay structure) spent more time in planning; and that whether the students dictated or wrote their compositions did not affect the number of propositions they included in their essays. The authors are at pains to point out that dictation (oral composition) itself did not make for advances in composing skill, but that the combination of oral composition and advanced planning techniques made the difference. They also make the caveat that the study was conducted with students with learning difficulties, and may not necessarily be generalized to “their normally achieving peers” (p220).

The study, however, appears to suggest that direct use of heuristics or techniques for planning argumentational writing, combined with oral composition (thus freeing the students from the labour of writing their essays) was the most effective set of approaches. In this sense there is some common ground

with Englert et al. (1991) and Ferretti (2000), discussed above, both of which found that the use of explicit ‘scaffolding’ had an effect on students’ argumentational writing.

Graham was also involved in a study of the effectiveness of a highly explicit, teacher-directed instructional routine used to teach three planning strategies for writing to 4th and 5th grade students with learning difficulties (Troia and Graham 2002). The strategies used in this study included: identifying the purposes of the activity and setting clear goals; brainstorming ideas; and organizing those ideas. An acronym, STOP & LIST was used to facilitate teaching of these elements: *stop, think of purposes, list ideas, sequence them*. The writing process itself was divided into four stages: writing a rough draft, revising the draft, proofreading and editing, and publishing the final version. Teachers identified multiple tasks and situations for which the students could use the strategies, and gave students homework in which they could apply the strategies. Feedback was given on each completed assignment.

The authors found that there were no significant differences between groups in post-test scores for either essay quality or essay length. More specifically, the post-test essays written by students in the strategy instruction group were slightly longer but of lower quality than their pre-test essay, whereas the post-test essays written by the students in the writing process group (the control group) improved slightly in quality, but were shorter in length than the essays written for the pre-test. Two caveats must be borne in mind with this study: first, that the results are based on only three homework exercises, so it may be that the instruction hardly had time to have a significant effect on the learners; and, again, the fact that the study was undertaken with students with learning difficulties means that it may not be generalizable to a wider population of students of this age.

Unlike the previous two studies (but slightly lower in overall weight of evidence), De La Paz and Graham’s 2002 study was conducted with 12-14 year olds at grades 7 and 8, and covered the full range of abilities. The aim in this case was to examine “the effectiveness of an instructional program designed to improve the

writing performance of (American) middle school students” (p687). The key element of the instruction was “a strategy that organized and directed the processes for planning and writing an essay” (ibid.). The strategy included developing a plan in advance of the writing that analysed the demands of the writing assignment; setting goals for writing; and generating and organizing material to write about. The students also planned *while* they wrote, revising and upgrading their original plan as necessary, including transition words, interesting or mature vocabulary, and varied (error-free) sentence types.

As expected, the writing programme “had a positive effect on the writing performance of the participating...students. Immediately following instruction, students in the experimental group produced essays that were longer, contained more mature vocabulary, and were qualitatively better than the essays generated...in the controlled classrooms” (pp695-6) and these effects were maintained on an essay written a month after the instruction ended. The essential elements of the planning process, according to the authors, were that the “plans of the students in the experimental condition tended to be more complete, elaborate and hierarchical” (p696) than those in the control condition. Effect sizes were greater than 1.0 on both the post-test and maintenance writing probes (the tools used to test whether the effect was sustained).

Graham’s work appears again in Graham, Harris and Mason (2005), a study which aimed to examine “the effectiveness of an instructional program designed to improve the performance of struggling young writers...attending urban schools that serve minority and other children from mostly low income families” (pp208, 234). (The study assumes, in the US context, a connection between minority children and those from low-income families.) Working within a Self-Regulated Strategy Development (SRSD) approach to learning, which emphasizes that learning “is a complex process that depends, in large part, on changes that occur in the learner’s strategic knowledge, domain-specific knowledge, and motivation” (p208), the students were taught strategies for accomplishing specific writing tasks, and any information or skills needed to use these strategies. There was thus a high degree of self-directed and teacher- and peer-supported development in this study. The specific planning strategy taught to these students was represented by the mnemonic

POW: *pick* my ideas, *organize* my notes and *write* and *say* more. As part of the central organizing stage with regard to persuasive essays, a second mnemonic, TREE, was used: *tell* what you believe (i.e. state the proposition or ‘topic sentence’), *give* three or more *reasons* (to support why you believe this) *examine* each reason (why will my reader buy it?) and *end* it (write a conclusion).

The results of this study demonstrate that students using the experimental SRSD-informed strategies wrote qualitatively better and longer essays than their peers in the comparison condition. The experimental students also spent more time composing their post-test essays. In general, the authors conclude that “teaching third grade struggling writers a general strategy for planning a composition, genre-specific strategies for...persuasive writing, procedures for regulating these strategies and the writing process, as well as knowledge about the basic purpose and characteristics of the [genre] had a powerful effect on the participating writers’ performance” (p234). However, the study was not able to follow up the students’ persuasive writing with a delayed post-test, so the authors were not able to claim that the significant effects of the intervention were sustained beyond the period of the experiment itself.

Medium-rated studies

Crowhurst (1990), Knudson (1991), Knudson (1994), Reznitskaya et al. (2001) and Yeh (1998) were rated ‘medium’ in terms of weight of evidence. We have decided to include these in our synthesis as, in their various ways, they shed helpful light on the research question in hand, despite some shortcomings in methodological validity and/or reliability.

Crowhurst’s study is one of the few undertaken in Canada in the present review. It aimed to discover whether students’ “writing of persuasion” (p157) could be improved by instruction, and specifically whether practice in reading improves writing and vice-versa. 11-12 year old students (Canadian grade 6) were

divided into four groups, each of which received a different combination of input. The first group underwent training in writing instruction, with the provision of a model structure, an opportunity for collaborative brainstorming, draft revision in pairs and teacher feedback on four ‘for and against’ essays. The second group had the same as the first group, plus the addition of reading five specially constructed ‘for and against’ texts. The third group read the same texts as the second group, then discussed them – but had no writing instruction. The fourth group acted as a control group, with discussion only and no extra input to the writing process.

The results indicate that the first two of the three experimental groups scored significantly higher than the control group on the writing quality at the post-test stage but not on the pre-test. Specifically, the post-test compositions of the first two groups “were better organized, with fewer reasons – some of them elaborated – than the list-like compositions common in pre- and post-test compositions by students without instruction. Post-test compositions of the writing and reading+instruction groups were more likely to have some kind of concluding statement as against the very abrupt endings common in other compositions” (pp166-7). There were no significant differences between the groups on the number of idea units recalled.

Knudson (1991) worked with students in grades 4, 6 and 8 in southern California. There were three types of intervention used: instruction with model pieces of writing, scales and questions designed to guide students’ writing and revision; both models and scales/questions; and no explicit instruction in persuasive writing (the control group). Results confirmed the difficulties of argumentational writing for students of this age, showed some improvement in content and form, and appeared to be moderately highly correlated with regard to clarity, coherence, organization and word choice. Grade 8 students wrote better arguments (i.e. improved more) than those in grades 4 and 6, and were also able to sustain performance two weeks after the intervention. But this result in itself is not that surprising, and the author herself concludes that the results were mixed and inconclusive, and that there were limitations in study design. She also acknowledged that

there was nothing to explain why girls' scores dropped so dramatically as soon as the intervention was withdrawn.

A later study by Knudson (1992, 1994) describes work with grade 3 and 5 students using a similar intervention to the previous study. This time, there were no significant main effects for gender though there were significant main effects for grade. As in the study by Knudson mentioned above, such a result is not surprising and seems to point toward cognitive maturation being a significant factor in the ability to write persuasively, rather than any intervention on the part of the teacher. Knudson concludes that "little is really known about what makes a good persuasive argument" and "even less is known about how to teach effective argumentation" (p222). Unfortunately, in neither study is there a clear account of the interventions used.

Reznitskaya et al.'s (2001) study aimed "to provide evidence about the effects of discussions in which children engage in oral argumentation on [sic] the reasoning that the children then exhibit in persuasive essays" (p157). It examines "whether oral discussions can help students acquire 'portable' [i.e. transferable] knowledge of argumentation" (p159). The intervention in this study consisted of discussion of controversial issues, coaching by teachers in formal argument devices and web forums with grades 4 and 5 (9 to 11 year olds) – a series of interventions that went under the umbrella of 'collaborative reasoning'. At the end of the intervention period, students from the experimental and control groups each wrote a persuasive essay based on a moral dilemma. The essays were coded to measure students' ability to consider a variety of relevant arguments, counter-arguments and rebuttals, as well as to use evidence and to employ certain formal argument devices. Not surprisingly, students who had participated in collaborative reasoning discussions wrote essays that contained a significantly greater number of arguments, counter-arguments, rebuttals, uses of formal argument devices, and references to text information [evidence] than the essays of similar students who did not experience the intervention. The results, however, must be treated with caution, as the authors themselves, acknowledge, because the study was quasi-experimental.

The final paper included in this synthesis is that by Yeh (1998). The aim of his study was to investigate the effectiveness of two heuristics (scaffolding devices) based on Toulmin's (1958) model of argument and on elements of classical rhetoric. The study was conducted with 12-13 year olds, specifically 'cultural minority' middle school students in two different schools in the San Francisco Bay area. The interventions were plans and scaffolds for writing argument, or "devices to teach students a pattern of thought" (p53). Their intention was to achieve a well-formed essay "that avoids focus on superficial aspects of the written product" (ibid.). In order to focus on the deeper aspects of composition, the first heuristic devised was a 'pyramid', closely modelled on Toulmin, with a thesis, claim or proposition connected to, and supported by, data or evidence via an explicit or implicit 'warrant' (the part of the argument that justifies the connection between the evidence and the claim). The second heuristic was a 'bridge' linking the reason to an opinion via facts, if/then statements and values.

The results show that gain scores were higher in the experimental groups than in the control groups as far as argumentational development and 'voice' were concerned, but not significantly higher with regard to command of the conventions for argumentational writing. The gains were also higher for so-called 'cultural minorities' (to use the discourse of that time) than for the majority of white students. From the questionnaire/survey results that accompanied the experimental element, it appeared that Hispanic- and African-American students were less aware of the thesis-support model than White students (Asian-American students were not included in the small sample), though Yeh acknowledges that a more balanced sample of 'white' and 'minority ethnic' students would be needed to confirm these findings. Overall, the findings suggest that combining explicit instruction in heuristics with immersion (process) approaches to writing development are important.

Summary of results

From consideration of the eleven studies in the 2006 review summarized above, it appeared that certain conditions were either assumed or had to be in place to create a climate for successful practice. Recent research simply reinforces the position set out here. Overall then, these conditions are not specific to argumentational writing but include:

- a writing process model in which students are encouraged to plan, draft, edit and revise their writing (Englert et al. 1991; De La Paz and Graham 2002; Troia and Graham 2002)
- self-motivation (in the form of personal target-setting – one aspect of self-regulated strategy development) (Graham et al. 2005)
- some degree of cognitive reasoning training in addition to the natural cognitive development that takes place with maturation (Englert et al. 1991; Ferretti et al. 2000), for example the self-regulated strategy development suggested by Mason and Shriner (2008)
- peer collaboration, thus modelling a dialogue that (it is hoped) will become internal and constitute ‘thought’ (Englert et al. 1991)
- explicit and very clear explanations for students of the processes to be learned, though there is a suggestion in Reznitskaya et al. (2008) that these are less important than peer discussion.

More specifically and more relevantly to the present article, a number of strategies were identified in the 2006 review that have contributed to successful practice in teaching and learning with regard to argumentational writing for 7-14 year olds. They have been supported by recently published articles:

- ‘heuristics’, i.e. scaffolding of structures and devices that aid the composition of argumentational writing – in particular, planning, which can include examining a question, brainstorming, organizing and sequencing ideas and evaluating (Englert et al. 1991; De La Paz and Graham 1997; Troia and Graham 2002; De La Paz and Graham 2002). Planning that is extensive, elaborated and hierarchical can make for more effective argumentational drafting and completion

of essays (De La Paz and Graham 2002). (Yeh 1998) used heuristics based on Toulmin (1958) and classical rhetoric

- the use of oral argument, counterargument and rebuttal to inform written argument (De la Paz and Graham 1997; Reznitskaya et al. 2001)
- the identification of explicit goals (including audiences) for writing (Ferretti et al. 2000, Midgette et al. 2008)
- teacher modelling of argumentational writing (Englert et al. 1991)
- ‘procedural facilitation’, i.e. coaching by the teaching through the process of writing argument (De La Paz and Graham 2002).

Discussion and implications

Recent research literature

Since the technical report of our review was completed three other experimental research studies, that we are aware of, have been published. We include a discussion of the studies as a supplement to our systematic review, although it should be noted that we did not identify these studies in a systematic way and we have not quality appraised them. Therefore the findings that we report here should be read with these caveats in mind. The foci of these three studies are: social and cognitive processes underlying the development of argumentational knowledge (Reznitskaya et al. 2007); the effects of content and audience awareness goals for revision of persuasive essays (Midgette et al. 2008); and self-regulated strategy development instruction for writing an opinion essay (Mason and Shriner 2008).

In quasi-experimental conditions, Reznitskaya et al (2008) studied oral and written outputs of 128 4th and 5th grade students. Students were assigned to one of three groups: one in which students engaged in moral and social issues emerging from reading of argument texts; one which received explicit instruction in argumentational principles; and a control group. Of three post-intervention tasks, one was a reflective piece

of argument writing. Student performance in this essay was improved by participation in discussions, but not significantly by instruction in the principles of argument. The writings of some students suggested benefits from discussions *and* explicit instruction.

Midgette et al.'s study (2008) investigated the effects of revising in the light of content and audience considerations on the persuasive writing of 5th and 8th grade students. Students were randomly assigned to three conditions: a general goal in writing; a goal to improve content; and a goal to improve content and communication with an audience. Interestingly, students in the third group were more likely than the others to consider opposing positions and rebut them (a skill which students find difficult, even at undergraduate level), largely because addressing an audience makes the argument dialogical in nature. Students in the two groups where there was a specific focus on content, and on content and audience, wrote more persuasively than those students in the general group (though we need to bear in mind that persuasion is not necessarily the same as argument). Not surprisingly, 8th grade students wrote better arguments than 5th graders; and girls wrote more persuasively than boys. Issues of gender in relation to argumentational writing are not pursued in the current paper, as none of the other recently published papers, nor in the 2006 research review that forms the bulk of this article, highlighted gender differences.

Mason and Shriner's (2008) article, on self-regulated strategy development instruction for writing an opinion essay, concentrates on six students with emotional/behavioural disorders. Students were randomly matched and all fell within the 7-14 age group; they were randomly selected from two age groups (8 to 9 year olds, and 10 to 12 year olds) thus allowing comparison not only between individual subjects as cases, but between them and their peer groups, and between the two age groups. A multiple-probe design was used across subjects to evaluate student' performance before, during and after instruction. While such a study cannot be reported in detail here, it is important to report that all students except one improved and maintained improved performance in writing persuasively, not only in terms of length of argument but also

with regard to the quality and the number of parts of an argument when compared with their baseline performances; and in relation to their peers. Gains were greater for the younger group.

Strengths and Limitations

The recent research reinforces, in a limited way, some of the findings of the 2006 review, as detailed above. There are both strengths and limitations to our study. First, our focus in the 2006 review was tightly on *effective* and successful practice in the teaching of argumentational writing for 7-14 year olds, with a consequent emphasis on randomized and controlled trials. Although confining ourselves to experimental research enables us to address an effectiveness question, there is little description in these articles of the contextual factors that make for a successful writing climate, though we *have* identified key conditions that have to be in place to make writing pedagogy stick. We would argue, though, that the tight focus and subsequent identification of these conditions and of writing heuristics makes an original contribution to knowledge on the topic of argumentational writing, albeit via review and synthesis. Second, we acknowledge that all the studies discussed originate in the USA, with the exception of one from Canada. Transferability to the curricular and school context in England should not be taken for granted. However, we think it is important to learn from studies undertaken overseas where it is possible to identify successful practice.

Policy

The findings, if transferable from the USA and Canada to England and other countries, confirm the value of an increased emphasis on argumentational writing in the National Curriculum at key stages 2 and 3 (ages 7-

14) in its Curriculum 2000 version. It was not until the 2000 version that argumentational writing had such a profile within the curriculum; earlier versions downplayed it in relation to narrative, expressive and descriptive writing. The findings also confirm that advances can be made by pupils in the 7-11 age range as well as in the 11-14 age range. There is every reason to believe that the teaching and learning of argumentational writing should start early in key stage 2. Such emphasis on argumentational writing is particularly important in the light of the continued under-performance of pupils at key stage 2 in writing in England, compared with their performance in reading and with performance at other key stages in the curriculum, where reading and writing performance are more closely allied.

In terms of the National Strategies, the findings confirm the emphasis that has been put on the process of writing, teacher modelling and peer collaboration in the strategies. The findings also raise interesting questions about critical thinking and cognitive reasoning, where strategies could be developed for improving and challenging pupils' thinking in relation to both argumentational writing and other forms of writing. In this respect, there is a timely connection with the National Secondary Strategy's work on thinking skills in the 'leading in learning' whole school initiative, and the findings are also significant for the so-called 'functional skills' proposals – both writing and oral work – for developing argument and a concept of progression in teaching and learning of written argument over the later key stages and at 14-19 (the latter stage being outside the scope of this article). We would not, however, want to subscribe to a notion of 'functional skills' when discussing argumentation for 7-14 year olds, as the development of successful argumentational writing is more complex than suggested by the 'functional' approach. The findings reinforce existing support and guidance on speaking and listening and may inform future developments in relation to the value of oral argument *per se*, as well as providing a precursor to and preparation for written argument. Furthermore, the findings are useful in identifying the motivational importance of pupils being able to set, and have choice over, explicit goals for their writing.

Perhaps the key finding in terms of policy is that argumentational teaching strategies cannot be expected to succeed without a deep understanding of writing process and its implications for learning; and an encouragement for pupils to work together in solving problems and exploring ideas. Self-motivation and self-regulatory learning strategies are also needed so that the learning is embedded, rather than being a superficial response to teaching.

Practice

Further development of practice with regard to the teaching and learning of argumentational writing must take on board what has been said above about the links between conditions for learning and specific ‘heuristics’ for improving such writing. To use a gardening metaphor, the ground needs to be well prepared for new practices to take root, and for sustained and vigorous growth to take place within a framed curriculum plan.

Our knowledge of textbooks and practices in the field suggests that few programmes for teaching argument address both aspects of the problem. The ‘critical thinking’ movement has spawned a variety of approaches, as have innovations in learning styles and strategies. Neither of these traditions has been linked specifically to the teaching of argumentational writing in English, nor across the curriculum. There has also been little in the way of transfer of argumentational skills across the transition from primary to secondary schools in the UK.

There is every indication, however, that practitioners and policy makers working within the context of the National Curriculum for English in England would be receptive to the recommendations made in this study. The genre-based approach to English pedagogy introduced with the National Literacy Strategy in the final years of the twentieth century challenged the perceived dominance of narrative within the classroom by

encouraging a focus upon so-called non-fictional genres such as ‘discursive writing’. The genre-based approach also brought with it an explicit concern not only for the ways in which texts are structured but also for how they seek to position their readers at word, sentence and whole text level.

This change of pedagogical focus required teachers to reposition themselves within the classroom, so that they operated less as facilitators of learning and more as expert practitioners who needed to be skilful exponents of some of the key strategies recommended by this report: for example, modelling good practice as writers themselves or coaching their pupils in the acquisition of explicit writing techniques and strategies. Developments in technology – such as the increasing use of interactive whiteboards with internet access to a wealth of resource materials – have made the explicit modelling and sharing of writing practices a regular and engaging shared experience in many English classrooms.

Most significantly, perhaps, ‘argument’ is now firmly embedded within the assessment procedures of the English National Curriculum than it was in earlier versions of the National Curriculum. At Key Stage 3, for example, several of the Assessment Focuses for EN3 (Writing) examine pupils’ ability to attend to ‘deep’ and ‘surface’ structural features of their writing, with a particular emphasis upon ‘composition’ and the ability to gauge requirements of audience and purpose. Typical national examination assignments at Key Stages 3 (when statutory tests were still in operation) and 4 might be to argue a case for the retention of a public park as a recreational space for young people, to write a letter to a headteacher, arguing for a change in a school’s curriculum, or to write in role as a character from a play by Shakespeare, urging a particular course of action. For EN1 (Speaking and Listening) assessment, pupils might be encouraged – and again this is an effective strategy highlighted by the 2006 report – to work as a team on the creation of a poster designed to argue a particular case.

In terms of ‘curriculum backwash’, this shift in assessment focus has encouraged a corresponding classroom emphasis upon the structures and strategies associated with argumentational writing. At a lexical and

syntactical level, for example, pupils might be taught how to use a ‘discursive marker’ such as the word ‘however’ within a sentence. They might be encouraged to learn and consolidate argumentational strategies through the acquisition of mnemonics such as ‘a forest’: *alliteration, facts, opinion, repetition, emotive language* and *three (rule of)*.

The emphasis upon written argument is not confined to the English classroom. The National Strategies have encouraged once again an attempt to involve all teachers in the explicit development of language skills. Argument has an important part to play in the History lesson, for example, or the Science laboratory. Recent initiatives in citizenship education have reinforced the importance of members of a democratic state being able to argue their case or to weigh the arguments of others. Interest in meta-cognition has been renewed through the development of thinking skills in the classroom and through attempts to help pupils take responsibility for reflecting upon their own learning and achievement.

Practitioners - particularly those new to teaching – need the kind of guidance that this study can give on how to model good argumentational writing practice themselves, on how to coach their pupils in the most effective and proven writing procedures and on how to establish engaging learning opportunities in which the skills of written argument might be developed and incrementally honed across the key stages and across all four modalities currently defined as constituting ‘English’.

Research

First and foremost, we recommend the undertaking of new primary studies in the teaching and learning of argumentational writing in England and the UK. The age-group from 7-14 appears to be an important one for such studies, as this is the period during which argumentation can be developed in writing in preparation for more advanced work from 14-19.

Second, we believe that a number of large-scale trials in primary and secondary and secondary schools might be undertaken to test the worth of different interventions intended to improve the quality of argumentational writing. These impact evaluations could be complemented by process evaluations that aim to provide qualitative data on the particular circumstances of teaching and learning such writing.

Third, the suggestion needs to be pursued that pupils with learning difficulties can learn to write better argument alongside pupils without such difficulties.

Fourth, there need to be closer links between researchers undertaking work on critical thinking and other forms of approach to the improvement of reasoning in school education.

Fifth, international comparative studies would be helpful in determining the national characteristics of the relationships between reasoning and argumentation.

Conclusion

In the light of continued problems with writing performance in England, particularly at ages 7-11, and specifically with argumentational writing because of its conceptual and structural demands, we feel that the results of the 2006 review and consideration of more recent studies are significant. The key finding is that there is a need to distinguish between the conditions that have to be in place for successful writing of argument on the one hand; and the writing heuristics that are successful in these conditions on the other. We therefore feel we have gone some way to identifying the context for successful argumentational writing, though admit there is more work to do on defining the range of nature of these contexts. We have also managed to distil what are the key heuristics in the generation of successful argumentational writing in schools. There is no doubting the continuing need for research in this field and on this topic, as the ability to argue in writing (as well as in speech and other modes) is essential not only in primary and secondary

schools, and in further and higher education, but also in the real world of engagement in a democratic society.

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The full technical report (2006) is available at <http://eppi.ioe.ac.uk/reel>.

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