Talk for Writing: Review of related research

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Executive Summary

Talk for Writing (T4W) is a curriculum programme for raising standards of writing. It makes extensive use of classroom talk to help children become familiar with a range of text genres. For each genre, this familiarisation is extended through 'talking the text', shared and guided teaching and pupils' independent writing of the same type of text. This Review of related research identifies the ways in which the main elements of T4W are supported by peer-reviewed research and other scholarly publications. The Review was commissioned by the Primary Writing Project, of which Talk for Writing is now a central part, and funded with the assistance of a grant from the Education Endowment Foundation. The Primary Writing Project supports clusters of schools with similar writing interests in working collaboratively over time. In each school, all teachers and teaching assistants have whole day training sessions. There is also a project team in each school that meets regularly.

The research review begins by summarising some key issues, including the limited effectiveness of central government initiatives in England regarding teaching approaches and pupil attainment. After describing the origins, rationale and core features of T4W, the Review discusses related work on generic issues in writing research and on the specific features of the T4W approach. These features include its three main stages, 'imitation', 'innovation' and 'invention', and its use of specific text genres, teaching approaches and support for pupil writing ('writer toolkits'). For each feature, the Review notes the particular contribution to current practice, in the light of inspection and other evidence.

The final section of the Review discusses T4W in the context of recent research into the effectiveness of different curriculum approaches. It indicates that T4W is commensurate with some of the main findings and implications of this research. More specifically, T4W shares many of the features of the 'Self-Regulated Strategy Development' teaching approach (SRSD) that has been extensively developed in the USA. The effectiveness of the SRSD approach is supported by 'strong evidence' in a meta-analysis of research commissioned by the Department of Education in Washington. These features include the following: strategies and techniques to shape writing for different purposes; the gradual release of responsibility from teacher to pupil; the selection of writing for a variety of purposes and audiences; the use of exemplary texts; genre-specific techniques; and pupil self-evaluation and self-reinforcement.

Some elements of T4W have not yet been validated by systematic investigations but, together, they appear to be impacting upon school practices in ways that teachers find effective and that pupils find appealing. Continuing evaluation work will indicate the ways in which T4W, and the Primary Writing Project as a whole, make a significant contribution to raising writing attainment.

Talk for Writing: Review of related research

Introduction

Talk for Writing (T4W) is a curriculum programme that focuses on the extensive use of classroom talk to help children to improve their writing in a range of text genres. It is based on a recognition of what successful writers do. For experienced writers, much of this is internal and automatic. However, many children will benefit from their own writing processes being explored through supportive talk, so as to share the thinking that is involved.

T4W has evolved over several years (Corbett & Strong, 2011) and now forms the central core of teaching and learning approaches in the Primary Writing Project. This Project aims to raise standards of writing by motivating children and teachers, deepening their understanding of writing and refining their skills. The Project involves clusters of schools, with similar interests in writing, working collaboratively over time. In each school, all teachers and teaching assistants have whole day training sessions. Each school also has a project team that meets regularly.

The origins of T4W were in a 'Storymaking' teacher research project into the link between storytelling and writing, supported by a central government Innovations Unit (DCSF, 2008a) and the Centre for British Teachers. Key influences included Kendall Haven's book *Story Proof: The Science Behind the Startling Power of Story* (Libraries Unlimited, 2007) and Taeschner's research into the use of narrative as a strategy for learning another language.

T4W is structured around many of the elements of the National Literacy Strategy, later extended into the National Primary Strategy that was introduced into English schools in 1998 and ran until 2011: familiarisation with a range of text types; teacher demonstration of each type of text through shared reading and writing; teacher support through guided writing; and independent writing. However, T4W gives greater priority to 'talking the text' through meaningful repetition and re-visiting ('imitation') of what is read to children and what they learn to read. Re-visiting and talking the text in this way helps children learn to internalise its structure (e.g. how even simple stories develop through setting, characters, plot and resolution), become familiar with its syntactical patterns and begin to acquire its specific vocabulary. This application of learning is subsequently supported through guided activities ('innovation') and eventually independent writing ('invention') of the same type of text. The Primary Writing Project has been developed in the light of favourable verbal reports on the impact of Talk for Writing from numerous schools and a positive interim report from a two-year action research project (Rooke, 2012).

T4W also shares many of the features of the 'Self-Regulated Strategy Development' teaching approach (SRSD) that has been extensively developed in the USA (Graham & Harris, 2005). The effectiveness of the SRSD approach is supported by 'strong evidence' in a meta-analysis of research commissioned by the Department of Education in Washington (see section below on 'Effective practices in the learning and teaching of writing'). These features include strategies and techniques to

shape writing for different purposes; the gradual release of responsibility from teacher to pupil; writing for a variety of purposes and audiences; the use of exemplary texts; genre-specific techniques; and self-evaluation and self-reinforcement.

The purpose of this Review is to identify the ways in which the main elements of T4W are supported by peer-reviewed research and other scholarly publications. The Review was commissioned by the Primary Writing Project, and funded with the assistance of a grant from the Education Endowment Foundation. Priority has been given to research syntheses and meta-analyses; in other cases, sources have been cited that are generally representative of empirical findings and theoretical trends.

Background issues in pupil writing attainment

For the past fifteen years or so, the teaching of writing has been the focus of substantial national debate. It reflects a growing recognition that low levels of literacy in a significant proportion of the population may have far-reaching economic consequences. Reading and writing are justifiably referred to as central parts of 'the basics', the tools of further learning (Barber, 1997). Weaknesses in processing written information can make a workforce less efficient and the companies which employ them less competitive in world markets. Poor literacy that continues into adolescence and adulthood has many serious implications for society beyond the years of schooling. Attention has also been drawn to the relationship between low levels of literacy and social exclusion and especially how it may persist through generations (Wanzek, Vaughn, Kim, & Cavanaugh, 2006; see also Bus, Ijzendoorn, & Pellegrini, 1995).

Writing is the aspect of literacy education that has been least responsive to government reforms in England. Despite the introduction of the National Literacy Strategy in 1998, pupil attainment in writing has increased at a much slower rate than pupil attainment in reading in national test results (HMI, 2002). In 2000, only 55 % of pupils attained the expected level (level 4 or above), compared with 83% in reading (DfES, 2002a). Since then there has been a notable increase in writing attainment, although pupils still perform less well in writing: 75 per cent of pupils achieved the expected level in the 2011 national tests compared with 84% in reading (DfE, 2102). There is also a long-standing gender gap, with girls' attainment still approximately 10% higher than that of boys.

Teaching approaches in writing have also been slower to change in response to government reforms than those in reading. According to earlier inspection evidence (HMI, 2000, 2002), part of the original problem was the legacy of an over-reliance in schools on 'stimuli' and work-sheet material and an under-use of teaching to help pupils improve their writing, particularly at the point of composition. The NLS encouraged the use of shared and guided teaching approaches that were not common in England at that time (Beard, 1999, 2000b; see also Beard, 2011).

Central government responses have included commissioning, through the National Literacy Strategy, additional strands of material and training opportunities for teachers that concentrated on the shared and guided approaches (DfEE, 2000, 2001). Elements of grammatical reference have also been

included in the materials for 7–14 year olds after many years when grammar has not been explicitly taught to these age-ranges (see also section 5 below on 'The role of texts'). In addition, government initiatives have targeted individual underachievement by using objectives-based intervention programmes and teacher assistant support, for example Further Literacy Support (FLS) for 9–10 year olds (DfES, 2002b). More recently the Every Child a Writer (ECaW) project (DCSF, 2008b) aimed to increase pupil progress by improving teaching through the use of 'leading teachers' and focusing on planning, assessment and guided writing, as well as one-to-one tuition for those pupils in most need.

Although the National Literacy Strategy was externally evaluated by an overseas team (Earl et al., 2003; HMI, 2002; DfE, 2011; see also Stannard and Huxford, 2007), these evaluations have not focused specifically on writing. Two additional government initiatives that were evaluated (FLS and ECaW) showed insignificant results in writing, although there were implementation issues in both programmes (DfES, 2004; Beard, Shorrocks-Taylor, & Pell, 2004; Fisher & Twist, 2011).

Brief description of PWP

1. *T4W: origins, rationale and core features*

An earlier Introduction to the Talk for Writing (DCSF, 2008a) notes that, although there have been significant improvements in children's writing outcomes in recent years, national standards remain a major concern; too many primary school children are not attaining as highly or making as much progress in writing as in reading. This applies particularly, though not exclusively, to boys. The earlier T4W materials comprised a booklet that was supplemented by exemplification on two DVDs; one an interactive resource drawing heavily on classroom case studies; the other providing illustrations of related professional development sessions. The teaching approaches outlined in T4W were initially introduced through a series of workshops, provided by the National Strategies in collaboration with professional writer Pie Corbett, in several regions of England in 2007/8.

The focus of T4W is a developmental exploration, through talk, of the thinking and creative processes involved in 'being a writer'. The notion of 'being a writer' is built on a key set of principles, including the following: enjoying writing and finding the process creative, enriching and fulfilling; reading widely, recognising good writing, and understanding what makes it good; being aware of the key features of different genres and text types; learning about the skills of writing from reading and drawing upon its models; having 'something to say' (a purpose and audience); knowing how to develop ideas and how to plan and prepare for writing; making informed choices during writing (including vocabulary, grammar and text structure); understanding how to reflect upon, refine and improve writing; and responding to the constructive criticism of others. It is accepted that, for experienced writers, many of these processes are internal and automatic. However, for developing writers it is very helpful for these processes to be explored, through talk, in a supportive learning context.

The materials drew upon an earlier professional association publication (UKLA, 2004) that presented a curriculum planning model in which opportunities for independent writing were preceded by familiarisation with the genre/text type (including capturing ideas and oral rehearsal) and teacher

demonstration (including teacher scribing, supported writing and guided writing). The model assumed a sequence of lessons over 2–4 weeks in which reading and writing objectives are linked; speaking and listening is planned into the teaching sequence; text, sentence and word level work support each other; there is a writing outcome which links clearly to the specific objectives identified for the unit of work. Recommended 'talk strategies' include 'book-talk' (children's personal and collective responses to a text as readers); 'writer-talk' (articulating the thinking and creative processes involved in writing); story-telling and making; word and language games; and role-play and drama. Subsequently, key elements of this model have been alliteratively summarised in Primary Writing Project materials as 'Imitation'; 'Innovation' and 'Invention'/'Independent Writing' (see also Corbett & Strong, 2011).

2. Documented records of implementations and evaluations of T4W

There have been numerous favourable verbal reports on the impact of T4W from schools (e.g. Corke, 2007). There has also been a positive interim report from a two-year action research project in 12 schools funded by the Esmée Fairbairn Foundation (Rooke, 2012). This aimed to develop a model for the teaching and learning of writing, underpinned by T4W, incorporating a focus on embedded formative assessment. The interim report suggests that formative assessment of writing by teachers with children, and by children with peers, can make a major difference to children's writing attainment, engagement and confidence. The report suggests that, during the first year, teachers became evaluators and activators in ways that were consistent with the related implications of the synthesis of meta-analyses by Hattie (2008) (also see section below on *The role of teaching in the learning of writing*).

Review of literature related to T4W: some generic issues

Understanding that writing is part of language as a whole

In recent years, published work on children's writing has been located within a broader framework of ideas from several international authorities that acknowledges the functions and forms of language as a whole. Such a framework enables understanding of how writing differs from speech and of its reciprocal relations with reading. For example, Vygotsky (1962, p. 181) drew attention to how language is a sophisticated kind of tool for representing the world, at first by speech and later by writing. Writing is an 'abstract, deliberate activity', differing from oral speech in both structure and mode of functioning and is a key tool for cognitive growth. Vygotsky appears to have had in mind that writing involves using language that is 'independent of the immediate referents' (Bruner, 1972, p. 42) and 'cut loose' from the ongoing activities in which speech functions and on which speech thrives (Donaldson, 1993, p. 50). Writing allows people to communicate with others who are separated by distance and time; writing makes it possible to gather, preserve and transmit information widely; writing offers a powerful tool for refining and extending one's knowledge about a topic (Graham and Harris, 2005, p.1). According to collections of literary quotations, there are many professional writers who would echo the words of E.M. Forster, that writing comprises an act of self-clarification: 'How do I know what I think until I see what I say'.

However, as Dockrell and Connelly (2009) remind us, although oral language competence underlies the development of literacy, relatively few studies have tried to clarify how aspects of oral language foster or limit the production of writing. It is apparent that much research has tended to focus on speaking-reading links, rather than speaking-writing links. The influential longitudinal study of early language development by Wells (1985, 1987; see also Wells, 1999) provided evidence of the importance of adult-child dialogue in creating 'a shared construction of reality'. Wells also drew attention to the role of reading, especially of hearing and sharing stories in this. Wells reported that listening to stories and talking about stories helps children experience the 'meaning making' of written language. Such listening and talking vicariously extends the range of children's experience beyond their immediate surroundings. It develops vocabulary with which to talk about these extended experiences. It involves collaborative talk with adults to explore the significance of what is recounted. It develops children's own inner 'storying'. A later meta-analysis of quantitative research has confirmed that joint book reading by parents and pre-schoolers is significantly related to a range of outcome measures such as language growth, emergent literacy and reading attainment (Bus et al., 1995). Perera (1984) also made a significant contribution to the related literature by drawing upon a large corpus of language development data to outline how children are still developing their linguistic skills throughout the primary years. In particular, she reports that they develop control over the more sophisticated aspects of syntactical patterns more evident in written language, such as extended subjects, phrasal verbs and a range of subordination (see also Allison, Beard & Willcocks, 2002).

These findings on collaborative talk and its links with literacy are recognised in T4W publications, for example the 'Talk strategies' outlined in DCSF (2008a). 'Book-talk' is the extended opportunity to use talk to explore children's personal and collective responses to a text as readers (e.g., 'Tell me what you thought/felt about...'). 'Writer-talk' is the articulation of the thinking that helps children to think and behave like a writer (and perhaps consider themselves to be one); Storytelling and story-making involve the learning and repeating of oral stories, building children's confidence to develop them through telling, extending that development into writing and later generating 'new' stories orally as a preparation and rehearsal for writing. In addition, word and language games can be used to stimulate and develop vocabulary and role-play at various stages of the reading-writing teaching sequence.

The process of writing
As Stannard and Huxford (2007) point out, generalised discussion about literacy and 'literacies' may mask key elements of what writing comprises and the implications for its assessment. Writing is not just the 'flip-side' of reading. It involves a different set of skills and processes as, for example, Langer (1986) and Shanahan (1987) have reported from their empirical studies. Langer found that, while reading and writing are cognitively related efforts in meaning making, they are markedly different with regard to activity, strategy and purpose. Children also differ across ages in the variety of approaches that they use and the behaviours they exhibit. Langer developed a procedure for analyzing the knowledge sources, reasoning operations, monitoring behaviours and specific strategies used by 3rd, 6th and 9th graders during the reading and writing of stories and reports. She found that although the

same reasoning behaviours are called upon when reading and writing for meaning, the patterns of each category showed differences between writing and reading. While students' dominant concern was found to be with the meanings they were developing, in their writing they were more concerned with setting goals and sub-goals. In their reading, on the other hand, they focused more on content and validation of the 'text-worlds' they were developing.

Shanahan (1987) used four reading measures and eight writing measures to study the magnitude and nature of the reading and writing relationship. He estimated the amount of overlap between the components of writing and reading as used by 2nd and 5th grade students. Correlations between the reading and writing variables were significant but much lower than if the two domains were identical (see also Fitzgerald & Shanahan, 2000).

The implications for forging explicit and reciprocal links between reading, writing and talk is recognised in the PWP Background Paper. T4W is based upon how children learn language through 'memorable, meaningful, repetition'. Such constant experience of stories helps children internalise narrative patterns and to accommodate new settings, images, characters and plots. 'Talking the text' can thus support the accommodation of textual structures that may be new to children (for example, unconventional narratives and various kinds of non-fiction genres). The newly accommodated genre knowledge, including syntactical features and memorable vocabulary, can in time be assimilated into 'a living library, templates that are drawn upon when composing' (Corbett & Stannard 2013, p. 2).

Writing involves an integration of several interrelated processes which are utilised throughout the primary years and beyond including: composing ideas; transcribing ideas on to paper or keyboard; and reviewing what has been written, with opportunities to edit or revise (Hayes & Flower, 1980; Berninger & Swanson, 1994; Kellogg, 1996). There are also interactions between each process: the writer's working memory is a key variable: the use of diagrams and illustrations to support the writing may be significant; and the writer's motivation and the social environment may also be important factors (Hayes, 1996; see also Alamargot & Fayol, 2009).

To understand early writing development, it is also important to consider how writing differs from speech. From a linguistic perspective (e.g. Perera, 1984; Crystal, 1993), writing involves forming and using 43 letter shapes, a process which has no equivalence in speech; speech sounds have to be turned into spelling patterns; writing often involves a more deliberate use of vocabulary and grammar, in order to meet the social contexts in which writing is being used; writing follows certain conventions of space and direction, in English normally left to right and top to bottom, down the page; writing uses various kinds of punctuation that compare, in a limited way, with pauses in speech. (Some of these issues are taken up below in the section on 'Imitation'.)

From a psychological perspective (e.g. Bereiter & Scardamalia, 1982) the shift from 'conversation to composition' involves three important adjustments: 1. from using sounds in the air to using marks on the page or screen; 2. from communicating 'here and now' to communicating over time and space; 3.

from interacting with a conversational partner to producing language alone. Bereiter and Scardamalia argue that the third of these has the greatest significance in the composing of writing, as the young writer has to learn to engage in 'autonomous language production', without the conversational partner. Furthermore, young writers have to learn not only to communicate using 'content knowledge' (what to write about) but also the text-level ('rhetorical') knowledge', i.e. how to shape the text in the light of cultural conventions. (Some of these issues are taken up below in the sections on 'Innovation' and 'The role of '"toolkits"'.)
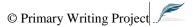
A variety of analogies have been used to provide additional insight into writing. Flower & Hayes (1980) compare writers to very busy switchboard operators trying to juggle a number of demands on their attention and constraints on what they can do. The novelist E.L. Doctorow (n.d.) has suggested that 'Writing is like driving at night in the fog. You can only see as far as your headlights, but you can make the whole trip that way. Sharples (1999) suggests that writing can be seen as a process of 'design', a skill that is grounded in the way we use our intelligence to create and share things in the world. Parallels between writing and design include the following: their open-endedness: only broad goals are possible; their potential endlessness: when to end is a matter of judgement; there is no infallibly correct approach: there are many equally successful ones; they involve finding, as well as solving, problems: a number of simultaneous constraints have to be juggled; they inevitably involve subjective judgements: considerations of 'quality' are bound up with values. (Some of these issues are taken up below in the section on 'Invention/Independent Writing'.)

Purpose, audience and text types
At the beginning of the twentieth century, Sir Philip Hartog (1908) argued that much of the writing that was done in schools at that time did not go beyond writing something, about anything, for no-one in particular. He argued that, instead, schools should be concerned with writing for a particular audience and with a particular object in view.

In the 1970s, academic authorities began to explore the fundamental aims of writing (e.g. Kinneavy, 1971; see also Kinneavy, 1983; Nelson & Kinneavy, 2003) and the audiences for whom pupils may write (Britton, Burgess, Martin, McLeod, & Rosen, 1975). In the late 1980's and through the 1990's, a set of ideas became influential that can be grouped under the general label 'genre theory'. Although dictionaries often define genre in terms of 'a literary or artistic type of style', the term has been increasingly used to distinguish between different kinds of writing in general (Reid, 1987). Genre theory has been used to link 'textual regularities' to 'typified rhetorical action' (Freedman & Medway, 1994), i.e. what the production of the text is used to accomplish. The theory is thus used not just to explain the features of text but also to show how social processes impinge upon acts of written communication.

There have been some concerns about the way in which genre theory has been adopted in educational practice, including the use of 'writing frames' that assume specific textual features for each genre. For example, is it wise to try to categorise texts that do not actually share all the

characteristics imposed upon them? How valid is it to encourage the teaching of a 'correct' way to write a genre when the world is full of texts that do not seem to fit the generic descriptions put forward in educational programmes? (Kress, in Cope & Kalantzis, 1993). A more pragmatic approach may be to see genres as a device to account for stability and variation from text to text, rather than to classify or model them according to their formal features.

Children are likely to benefit from being helped to attend to how texts can be organised and from opportunities to wrestle with the distinctive features of different genres. Their writing is also likely to be more effectively shaped if it is undertaken with a clear sense of purpose (Rees, 1996). Similarly it will gain from an identifiable readership, a sense of what a particular audience will judge to be important (Frank, 1992). Writing will undoubtedly benefit if there is something to write about which is accessible and which implicitly justifies the time and energy expended. (Some of these issues are taken up again in the sections below on 'The role of texts' and 'Effective practices'.)

Review of literature related to T4W: specific issues
1. *'Imitation' in the learning and teaching of writing*
The PWP *Talk for Writing: Background Paper* (Corbett & Stannard, 2013) points out the oral learning of stories is a powerful tool for helping the child to internalise the language. Oral learning of texts involves children in hearing and speaking the text. The texts may be taught in a multi-sensory manner, using story maps (visual representation) and actions (kinaesthetic) that may be extended by the use of drama (see also McNaughton, 1997). The stories may be repeated again and again – as a class, in groups and by pairs. As children become familiar with the story, they find it easier to retell independently.

This recognition of the importance of imitation is consistent with accounts of Vygotsky's (1978) work on 'assisted performance' (Wertsch, 1985; Tharp & Gallimore,1988), even though his theories are open to a range of interpretations (Cazden, 1996; Smagorinsky, 2011; Miller, 2011). Imitation by children of acts by older people is a prime means of socialisation, particularly if it is accompanied by adult modelling. This is true of traditional cultures as well as modern societies (Scribner & Cole, 1973). The child's understanding of the meaning of the performance, and of how different parts of the activity relate to each other, may be greatly assisted by questions, feedback and other forms of scaffolding. The potential of modelling in order to guide the learning of what is imitated has been also extensively studied by Bandura (1977). He took account of the parameters of the imitation process, including the age, gender and relationship of the participants, and how reinforcement can be achieved through images, actions and verbal symbols.

The PWP *Background Paper* goes on to state that, once the story is internalised, the shared text (perhaps a big book, a screen presentation or a handout) may be 'read as a reader' or 'read as a writer'. 'Reading as a reader' through shared reading, in which teacher and pupils simultaneously read aloud a large format text, is particularly associated with the publications of Holdaway (1982), who

sought to promote teaching methods that resembled the visual intimacy with print which characterises the pre-school book experience of parents reading with their children. He also included the use of songs and chants, to sustain the feelings of involvement among pupils.

The effectiveness of shared reading has been systematically researched by Eldredge, Rentzel and Hollingsworth (1996). Seventy-eight seven-year olds received either round robin or shared reading teaching in two matched groups for thirty minutes a day for four months. The same books were used for both groups. After four months, the shared reading group had significantly higher scores on tests of reading fluency, vocabulary acquisition and comprehension. There was also evidence that the supported reading experience of the shared reading group had the greatest impact on the word recognition abilities of the pupils who initially were the poorest readers. The research by Elley (1989) indicates the value of shared reading in vocabulary acquisition. Evidence from two experiments showed how reading to children can be a significant source of vocabulary growth, particularly when accompanied by teacher explanation of unfamiliar words, which can double the rate of vocabulary acquisition. A recent study in cognitive psychology has provided evidence that children who have the same story read to them over and over again may develop their vocabulary more than those who get a different story every time (Horst, Parsons, & Bryan, 2011). The authors suggest that children do not necessarily need a large quantity of books read to them at an early age but they do benefit from repeated exposure to those books, as they may learn different aspects of the text from successive experiences of it.

The PWP Background Paper states that 'reading as a writer' involves working out how the text was structured and what writing techniques were used. These features may then be displayed on a working wall or 'washing line'. Such displays can help children to make analogical connections with what they may attempt in their own writing. 'Reading like a writer' is a phrase often attributed to Smith (1983), who argued that the specialized knowledge that writing demands can only be acquired through a particular kind of reading, attending to the communicative techniques that lie under the production of a text. The idea has received empirical support from Bereiter and Scardamalia (1982). (See the section on 'The role of "toolkits"' below.)

The potential contribution of PWP to current practice
The multi-sensory approaches used in revisiting texts in T4W are likely to consolidate learning in ways that are not always ensured in current practice. Ofsted (2012, p. 13) has pointed out that 'There seems to be a belief [among teachers] that the faster the lesson, the better the learning … While pace is important – a slow lesson is likely to lose pupils' concentration – teachers too often concentrate on the pace of their planned activities rather than the pace of learning'. In contrast, 'reading as a reader' provides for sustained attention to comprehension and to a text's distinctive vocabulary; 'reading as a writer' allows key links to be made between the target text and how experience of it may assist children's own writing. The multi-sensory revisiting of texts is likely to forge greater overlaps between reading and writing ability, in line with the implications of research by Langer and Shanahan, and the

impacts on children's learning reported by Eldredge, Elley and Horst and their colleagues. Successive oral representations of texts may also help children to 'savour' them by ear, as well as by eye.

2. 'Innovation' in the learning and teaching of writing

In the PWP, 'innovation' becomes the focus after the children have heard, spoken, read and explored a model text and internalised it in their long-term working memory. 'Re-tellings' of the text may include paired work, with a response partner providing immediate peer-group feedback, before children move on to generate their own new version, with some modified content. Innovation involves helping children to generate their own version of the known text, with the teacher modelling the process through shared writing. The teacher may also work with different groups in guided writing, helping children develop their ideas and refine their new versions.

The use of shared writing featured prominently in the recommendations that stemmed from over a hundred investigations into the psychological aspects of writing by Bereiter and Scardamalia (1987, pp. 362–3):

- pupils (and teachers) need to be made aware of the full extent of the composing process;
- the thinking that goes on in composition needs to be modelled by the teacher;
- pupils will benefit from reviewing their own writing strategies and knowledge;
- pupils need a supportive and congenial writing environment;
- pupils will also benefit from experiencing the struggles that are an integral part of developing writing skill.

Shared writing provides a common forum for exploring and considering such possibilities. It may also be adjusted gradually to reduce the amount of teacher support, from modelling the writing process, through supported composition, to a basic transcription of pupils' oral composition. How this is done is also important. A meta-analysis of 73 primary- and secondary-age studies also suggests that provision for writing development is most effective if writing is undertaken when teachers and pupils discuss and tackle such targeted writing tasks in a spirit of inquiry and problem-solving (Hillocks, 1986).

This notion of innovation is similarly in line with Vygotsky's assisted performance theory, in which learning may be consolidated and further developed through assistance provided by the self (Tharp & Gallimore, 1988, p. 35). Also, as stated above, Bereiter and Scardamalia argue the young writer has to learn to engage in 'autonomous language production', without the conversational partner, combining decisions about 'what to write about' with 'how write it'. Learning to go alone may be self-supported through the use of self-provided external supports, what the researchers refer to as 'facilitative procedures' (see also the section below on 'The role of "toolkits"').

A reduction in the use of shared writing in T4W may be accompanied by the increasing use of guided writing. This allows the teacher to support and encourage pupils who are tackling a similar task and to monitor their use of the range of skills and processes in writing. Close observation of pupils gives

teachers information on the way pupils are composing a text, including the use of self-prompts, the fluency of their transcription skills (grammatical order, handwriting and spelling) and how far they are re-reading and revising. Empirical support for guided writing comes from Hillocks (1986) whose meta-analysis was used to compare the effectiveness of three approaches:

- guided writing ('environmental approach') (negotiated topics and support for pupils in using strategies that they are not capable of using on their own);
- 'natural process approach' (pupil-chosen topics, the writing of multiple drafts and the use of peer comments);
- 'presentational approach' (teacher-assigned topics and tasks and teacher-marking of outcomes).

Guided writing was found to be two or three times more effective than the natural process approach and over four times more effective than the presentational approaches. Hillocks suggests that the presentational approach is only minimally effective because it involves telling pupils what is strong or weak in writing performance, but it does not provide opportunities for pupils to learn procedures for putting this knowledge to work.

The recurrent links that PWP encourages between reading and writing in the 'innovation stage' also receives support from the research findings reported by Tierney, Soter, O'Flahavan, and McGinley (1989). These findings from studies of older students suggest that writing in combination with reading prompts more critical thinking than reading alone, writing alone or either activity combined with questions.

The potential contribution of PWP to current practice

These approaches to 'innovation' in writing are in line with numerous effectiveness studies in writing research and with more generic work on assisted performance. Compared with current practice in schools, the approaches provide more time for completing writing, for creative tasks and for the teaching of editing and redrafting (Ofsted, 2012, pp. 25–26). The need for a wider adoption of the guided writing elements of T4W was also apparent in the recent evaluation of the Every Child a Writer project. This reported that some teachers were still reluctant to use guided writing at the expense of overseeing the whole class as they write (Fisher & Twist, 2011, p. 9). The importance in T4W of a gradual reduction of 'transferable' models, and a reciprocal increase in the use of self-prompts, is also endorsed in the ECaW evaluation. Teachers sometimes focused on encouraging the use of particular grammatical features, rather on how these features are used to promote meaning and effect (Fisher & Twist, 2011, p. 10). In contrast, T4W can make an additional and timely contribution to the tackling of writing in what Hillocks (1986) referred to as 'a spirit of inquiry and problem-solving',

3. 'Invention' in the learning and teaching of writing

The third phase is 'invention', where children are expected to write increasingly independently. Less confident children may rely on the models from the imitation and innovation stages but more confident writers will draw upon a range of different sources. Textual structures and syntactical patterns are

likely to become 'transferable', so that they can be used in different situations for the young writer's own purposes. The invention stage also helps children to extend their experience of the shift from 'conversation to composition' referred to earlier. The purposeful use of marks on the page or screen to communicate over time and space will help build awareness and appreciation of the distinctive value of writing. The use of self-prompts may further help learners through the initial stages of acquiring the more complex executive processes of writing. Unless learners understand the purpose and nature of the process that they are trying to acquire, they may only be able to adopt superficial aspects of the complex process of writing (Bereiter & Scardamalia, 1982).

Similarly, with regard to Vygotsky's assisted performance theory, as self-regulation increases, and transcription skills improve, the learner has greater capacity for 'de-automisation' and 'recursiveness' (Tharp & Gallimore, 1988, p. 35). The significance of specific subject matter knowledge may be recognized; and more informed awareness may develop of how consultation with other sources might assist in improving the writing. Encouraging pupils to reflect upon how they plan, complete and evaluate writing tasks is likely to build their monitoring of their own thinking.

Such 'metacognition', together with working memory, has been increasingly recognized as playing a key role in securing writing development right through the school years and beyond. The novice writer progresses from knowledge-telling to the knowledge transforming that is characteristic of adult writers (Bereiter & Scardamalia, 1987). Knowledge-transforming can occur only when sufficient executive attention is available to provide the necessary cognitive control over the various textual possibilities that evolve as the writing progresses. Establishing sufficient cognitive control depends on reducing the working memory demands of writing through maturation and learning (Kellogg, 2008; Alamargot & Fayol, 2009).

The importance of providing opportunities for the independent writing of continuous text is supported by numerous studies, most recently from the conclusions of a USA government expert panel report (Graham, et al., 2012), summarized in the section below on 'effective practices'. It is understandable that teachers may try to help pupils improve their writing by various kinds of 'local planning' exercise, such as listing word families, filling in gaps in sentences or inserting punctuation marks into modified text extracts. Such small scale activities may appear to provide the building blocks for subsequent writing of continuous prose. However, psychological research into the composing process suggests that whole text planning is an important aspect of this 'local planning' (Galbraith & Rijlaarsdam, 1999; see also Bereiter & Scardamalia, 1987, ch. 3). Writing has visible genre features which help shape the emerging text. Accomplished writing is characterised by abundant planning, not only in advance of writing but, as plans are realised and then further elaborated in response to 'discoveries', during the writing itself (Bereiter & Scardamalia, 1987, p. 69).

The potential contribution of PWP to current practice

The significance of the 'invention' stage of T4W is underlined by inspection evidence that there is sometimes limited time for independent work in schools: 'A constant criticism from inspectors was that pupils rarely had extended periods to read, write or discuss issues in class. Indeed, inspectors observed lessons where pupils were asked to self- or peer-assess work before they had been able to complete more than a sentence or two' (Ofsted, 2012, p.14). The implication of the studies by Galbraith, Bereiter and their colleagues, discussed above, is that any attempt to improve writing competence is likely to benefit from extensive attention to the attributes of continuous prose and sustained experience of composing it.

4. The role of teaching in the learning of writing

Several T4W publications acknowledge the influence of the 'largest ever collection of evidence-based research into what makes a difference to learning in schools' (TES, 2012), *Visible Learning* (Hattie, 2008). The book synthesises more than 800 meta-analyses (over 50,000 studies) allegedly 'including the experiences of more than 80 million school-aged pupils across the English-speaking world'. The 'overall message' is commensurate with the key principles of T4W, as summarised earlier: making teaching and learning visible through the active, passionate and engaging participation of teachers, students, and peers and through feedback being sought and given (DEECD, 2010).

In line with much other meta-analysis in education, the relative effectiveness of educational interventions may be calculated, and also compared, by the use of 'effect sizes'. An effect size is normally calculated through the difference in mean scores of a target group and a control group, or of the before/after scores of a target group, and then dividing the difference by the pooled sample standard deviation. Hattie identifies a 'hinge point' for comparisons between interventions, an effect size of 0.40. An effect above this from an intervention (often of limited duration) is likely to have more impact on pupil progression than the impact of a whole of a typical year.

Visible Learning identifies 136 classroom interventions and lists them in order of effectiveness. It reaches the conclusion that, in summary, the most effective way to improve education is to raise the quality of the feedback pupils get and their interaction with teachers. The greatest difference comes from pupils' opportunities to assess their own performance and to discuss this with their teacher. In contrast, several educational topics that often feature in the press, such as class sizes, homework and choice of school, have relatively little effect. Hattie is only able to refer to a small number of specific writing programme studies (including two referred to in the present Review: Hillocks (1986) and Graham & Perin (2007), because of the strict criteria that he uses.

The potential contribution of PWP to current practice

The highest effect sizes that are reported in *Visible Learning* reported are for generic aspects of teaching that feature prominently in T4W: student self-assessment; response to intervention; teacher credibility; the provision of formative assessments; classroom discussion; teacher clarity; feedback; and the fostering of teacher-pupil relationships.

Other recent publications also indicate that T4W includes many good practice elements in the teaching of writing. An evaluation of English teaching (Ofsted, 2009, pp. 50–51), based on inspection evidence from 242 schools in England, identifies the value of the following:

- giving opportunities for pupils to talk about ideas and the task before beginning writing;
- effective demonstration of writing by teachers;
- well-focused feedback from teachers;
- topics that genuinely interested pupils;
- sufficient time for pupils to write.

Similarly, in answering the question 'What does effective teaching of writing look like?' a UK government publication (DfE, 2012) lists the following:

- teach pupils the writing process;
- teach pupils to write for a variety of purposes;
- set specific goals to pupils and foster inquiry skills;
- teach pupils to become fluent with handwriting, spelling, sentence construction, typing and word processing;
- provide daily time to write;
- create an engaged community of writers.

It should be noted that the DfE report draws heavily on a similar report from the US Department of Education (Graham, et al., 2012) which uses more rigorous criteria and which calibrates the evidence base. This is discussed in greater detail in the 'Effective practices' section below.

5. The role of texts in the learning and teaching of writing

A central argument in the PWP *Background Paper* is that learning a range of texts orally can be a powerful tool for helping pupils to internalise the language of these texts. This helps to consolidate and extend the learning that may result from the use of shared reading. Successive repetitions will provide a mental resource for using the broader textual features (e.g. characterisation and setting in narrative) and the more specific features of sentence pattern, cohesion features and vocabulary in their own writing. These transferable and 'generative' elements of T4W may be especially apparent when children attempt similar types of writing to those originally read to them (Corbett & Stannard, 2013, p. 6).

In its provision for a range of text types, T4W draws upon the genre theory introduced in the section above on *Purpose, audience and text types.* One of the main influences on genre theory has been the original work of Martin (1989; see also Cope & Kalantzis, 1993), who analysed different kinds of 'factual writing', so that the demands of school literacy could be better understood. His analysis included reports, explanations, procedures, discussions, recounts and narratives. Later work included persuasion and discussion. Martin's main attention was on 'factual' writing, writing that refers to 'how

things are', and he began to identify the grammatical features that often distinguish one genre from another. He compared this with other kinds of writing with which children may be more familiar, such as personal narratives or 'recounts.' In writing recounts, children write about things that 'actually happened' (including in their imaginations). They can draw upon the past tense story structures that are widely used in children's literature. In factual writing, children may have to learn to use other textual structures and syntactical patterns and more content-specific vocabulary.

Curriculum development work in Australia has illustrated how reading-writing links can be productively exploited in teaching non-fiction genres that involves three stages:

- modelling (sharing information about the uses and features of the genre, including grammar, format etc.);
- joint construction of a new text in the same genre by pupils and teacher;
- independent construction of another new text in the same genre by pupils, with drafting/editing consultation with peers and teacher and publication/evaluation;

 (Macken, et al, 1989, cited in Cope & Kalantzis, 1993; see also Rose, 2009).

Research into the effects of reading on writing has been undertaken on a range of text types and using a range of methods. Eckhoff (1983) used a matched group design to investigate how children's writing, in 10 second, third, and fourth grade classrooms, reflected the syntactic complexity, style, and format of their reading schemes. Those children using the scheme that contained more elaborate structures tended to use more linguistically complex sentence structures, such as subordinate clauses, in their own writing. In addition, children in both groups tended to use the style and format of their reading books as models for their writing.

Bereiter and Scardamlia (1984) report three experimental studies that investigated pupils' and students' abilities to write in three genres (a suspense narrative, a restaurant review and invented fiction) after reading and discussing the features of model texts. Pupils in the 8-13 age-range showed some acquisition of text-level knowledge, although this was more related to discrete elements of language and content (8-9 year-olds only tackled the suspense genre). The authors suggest that this may indicate the challenges of helping children learn the 'constant' features of different types of texts for use in their own writing. Barrs and Cork (2001) used a case study approach to demonstrate how enthusiastic use of children's literature can influence a range of features in children's imaginative narratives, although the study lacks the rigour of many others that are reported in this Review.

However, some studies have not found the kinds of links between reading and writing that might have been suspected. For example, a randomised study by Fitzgerald & Teasley (1986) examined how direct teaching of story constituents could enhance the features of 4th-grade children's story writing. The teaching had a strong positive effect on organization and quality but no effects on coherence, use of temporal or causal links, or creativity. Similarly, a study by Stainthorp and Hughes (1999) of 14 children who were identified as being precocious readers before they began school did not find as

many differences in writing attainment as expected. Samples of the children's writing, and those of another group matched for age, sex and cognitive ability, were collected when the children were aged 5, 6 and 11. At age 5, the spelling error rate of the comparison group was almost three times as high as that of the precocious readers. Nevertheless, the greater reading skill of the precocious readers did not have any other effects on their writing; the length of texts and diversity of vocabulary were similar. By age 6, significant differences in spelling error rate remained and there was evidence that the precocious readers were using a more adventurous vocabulary but there was still no difference in text length. By age 11 the only significant difference was in spelling error rate.

The potential contribution of PWP to current practice
The above findings on the uncertain links between reading and writing abilities add to those discussed earlier, such as the cautions from Bereiter and Scardamalia's on the challenges of learning the 'constant' features of texts. The findings also support cautions that stem from the work of Langer, and Stainthorp and Hughes, on the uncertain overlaps between reading and writing abilities. While text-level knowledge may be learned gradually over time, through osmosis, the PWP offers possibilities for accelerating this learning, particularly through the range of approaches to 'talking the text'. The transferable and 'generative' features of the accumulated text-level knowledge are likely to increase pupils' motivation to write and the effectiveness of what is written.

The use of grammatical reference
Learning a range of texts orally allows children to appreciate what can be gained from looking closely at the structure of language itself and the grammatical rules that govern it. In older and more able primary children in particular, this may be supported by some contexualised teaching of grammar. Grammatical terminology, if used judiciously, can provide a useful technical short-hand for language features that may otherwise require unwieldy circumlocutions.

The teaching of grammar has received a generally 'poor press' for having little impact on writing attainment (e.g. Wilkinson, 1971; Hillocks, 1986; Wyse, 2001; see also Tomlinson, 1994), although much of the evidence has been based on the use of de-contextualised, self-contained programmes and many of the studies are very dated. In the past fifteen years, a range of other approaches have been explored, reflecting how creators of text may be helped to make 'design choices' from a repertoire of thinking beyond the visual and the multimodal to include specific linguistic decision-making (Myhill, Jones, Lines, & Watson, 2012, p. 162). Activities for such embedded approaches may be found in QCA, 1998; Beard, 2000a; DfEE, 2000), although none have been systematically evaluated.

However, a recent national study, involving a randomised controlled trial (RCT) in secondary schools, provided important new evidence. A significant positive effect was found for contexualised grammar teaching, especially by more able writers. Teachers' linguistic subject knowledge was a significant mediating factor. The research also reveals that teachers found the explicitness, use of discussion

and the emphasis on playful experimentation to be the most salient features of the intervention. Interestingly, these are features that characterise T4W. Myhill et al. suggest that their study provides robust evidence for the first time of a positive benefit derived from the teaching of grammar.

In time, such evidence could provide impetus for the further development of T4W in the primary age-range. As it is refined and scaled up, the use of T4W may make a contribution to a re-thinking of the impact of embedded grammar teaching on pupils' writing. The kernel of this re-thinking may be a new awareness that grammar offers tools, rather than rules, for use in designing written texts.

6. The role of 'toolkits' in the learning and teaching of writing

The PWP Background Paper recommends the use of 'writing toolkits': various props, reminders, routines and other aspects of 'writerly' behaviour. It distinguishes between generic toolkits, that focus on language features (sentences, connectives, punctuation, etc.), and text-specific toolkits (e.g. for poetry, narrative and various types of non-fiction). Generally applicable toolkits can be displayed on 'working walls' or 'washing lines'.

The term 'toolkits' is sometimes used by writers to indicate how they go about their task (e.g. Rucker, 2010). The term is similarly used by psychologists to indicate the strategies used by skilled writers to gather information, organise ideas, and create and revise texts (e.g. Graham and Harris, 2005, p. 39). Informal accounts of how professional writers go about their work reveal a range of practices that support them in their work. Some writers need quiet and solitude (Roald Dahl, cited in Powling, 1985). Others have admitted that the best incentive to write is a deadline (Douglas Adams, cited in Walsh, 1985). Newspapers and magazines such as *Paris Review* and *Books* have regularly featured articles on how writers go about their tasks. These articles have provided valuable informal data for researchers (e.g. Bereiter & Scardamalia, 1987; Graham & Harris, 2005).

The general picture that emerges is that generalisations about 'real writing' and how 'real writers write' are not easy to make from the published accounts of writers at work. Perhaps the main implication from collections of these accounts (e.g. Harthill, 1988) is that they can inspire young or inexperienced writers to reflect on what fosters their own writing practices. For example, Piers Paul Read outlined the plot of a whole book on a single page. The novelist Brian Moore might rewrite the opening two or three pages of his books 'maybe forty, fifty times'. Tom Sharpe wrote entirely on a word processor; Iris Murdoch preferred pen and paper, as this allowed her to have the whole script to hand '..apt and ready for the eye: easily accessible'. Interestingly, given the educational debates about grammar teaching referred to above, a number of professional writers have cited the benefits about being taught grammar and of having teachers who showed them how the language worked as a system. The late Poet Laureate, Ted Hughes (1987), and the award-winning children's writer, Jan Mark (Duguid, 1998) are examples of writers who have expressed such views.

The use of toolkits may be seen as part of how young writers can help to overcome some of the lack of support from the conversational partner (see sub-section on *The process of writing* above). They

can do this by learning how to prompt themselves as they struggle to compose the text. According to Bereiter and Scardamalia (1987), these prompts can be of two main kinds: (i) to call up the necessary content from memory; and (ii) to structure the text into a story, a poem, information etc. The same researchers also provide evidence of procedures that may facilitate the composing process: listing words; brainstorming; setting out the main points of the planned text; deciding an ending sentence very early on in a story (which may otherwise drift). The value of these procedures will obviously vary, according to a whole range of circumstances.

Composing procedures can help to relieve the pressure to produce a text, even a rough first draft, until the necessary support has been assembled. When using pencil or pen, a double-page spread can be helpful, with the words, lists, draft sentences and other such prompts on the left and the emerging main text on the right. In word processing software, various kinds of 'scratch pad' facilities provide similar opportunities for initial ideas to be jotted down and to be revisited and amended as the main text is developed. Having these 'resources for writing' accessed and available for use can improve the young writer's confidence (Bereiter & Scardamalia, 1987). Planning and writing provide mutual support for each other as words and sentences are composed, ordered and re-read. Dahl and Farnan (1998) provide a helpful summary of American classroom research into how children's planning strategies change with age. Younger pupils in the 3–13 age-range are likely to transcribe their plans straight into their texts. Older children in this age-range tend to transform their notes into a text that maintains no resemblance to the original note-making.

The use of toolkits may also help avoid a disproportionate attention to the production of successive drafts in what is sometimes referred to as a 'process writing' approach. Goldstein and Carr (1996) report that, in studies of the writing of nearly 30,000 children in the USA, children who simply wrote first drafts performed no better than those who did not write plans or drafts. The children who did best were those whose planning involved lists, outlines or diagrams.

The potential contribution of PWP to current practice
The toolkits outlined in T4W include practices that are either innovative or that use established techniques in innovative ways: sound effects (e.g. rhyme, alliteration and onomatopoeia); visual effects; and precise and/or powerful word choices and combinations. Current work is being undertaken to map toolkits at text, sentence and word levels, and also their language effects, across the primary age-range. This kind of mapping is likely to provide a detailed resource for 'writerly' discussions between teachers and pupils when engaged in the co-construction of texts.

Fiction toolkits include creating settings that increase reader anticipation; plots (through introductions, build-ups, tensions and resolutions), and story mapping and paragraph links to reflect the textual 'architecture' (also see Smagorinsky, 2009). Other toolkits are focused on helping making characters to become believable and to come alive for the reader, partly through dialogue. Non-fiction toolkits include (for 'instructional language') sequenced steps, the use of imperative verbs and judicious use of

graphics; and (for 'information texts') the use of language and textual layout to collect, describe, classify and sequence experience according to common characteristics.

The potential contribution of PWP to current practice comes from inspection reports on the value of authentic teacher demonstration of writing, in which the use of writer toolkits is a part: 'Evidence from the USA .... suggests that pupils' work improves when their teachers regard themselves as writers. However, many of the teachers in the [Ofsted] survey ... lacked the confidence to do this. As a result, their pupils were not able to see how ideas and language are created, shaped, reviewed and revised' (Ofsted, 2009, p. 48).

7. *Effective practices in the learning and teaching of writing*

In recent years, there has been a notable increase in research to identify the most effective practices in the teaching of writing, using scientifically rigorous methods and generally building upon the seminal work of Hillocks (1986). Researchers, sometimes in expert panels, are increasingly making specific recommendations for practice based on the outcomes from randomized controlled trials (RCTs) and quasi-experimental research designs (QEDs). Each recommendation is often rated on the strength of the supporting evidence, e.g. 'strong', 'moderate' or 'minimal', taking into account the number, design and quality of the relevant studies. Other sources of evidence, such as single-case design (SCD) studies and researcher/panel expertise, may also be taken into account but, in themselves, are not normally able to raise the level of evidence above 'minimal'. To assess effectiveness, the researchers often assess the impact of practices on overall writing quality and, where appropriate, specific features of writing such as genre elements, sentence structure, and vocabulary. Given the inherent subjectivity of writing assessments, the outcomes are normally only considered if there has been consistency among multiple raters. One of the most substantial publications of this kind in primary education is from the USA's Department of Education (Graham, et al. 2012).

Some other relevant sources from the USA with broadly similar conclusions and implications are summarised in the Appendices:
a meta-analysis of true- and quasi-experimental writing intervention research (Grades 4–12) (Gillespie & Graham, 2010, based on Graham & Perin, 2007; see Appendix 8);
a meta-analysis of single subject design writing intervention research (Rogers & Graham, 2008; see Appendix 9);
Beliefs about the Teaching of Writing (NCTE, 2004; see Appendix 10).

Meta-analysis: What Works Clearinghouse (WWC) Teaching Elementary School Pupils to be Effective Writers (Graham, et al. 2012)
One of the most substantial publications of this kind in primary education is from the USA's Department of Education. From an initial list of 1,500 published studies, 118 were found to have used experimental or quasi-experimental designs to examine whether specific teaching approaches

increased pupils' writing attainment. From this subset, 41 met the WWC standards; 34 others were of sufficient quality to be used as supplementary evidence.

It needs to be noted that many of the studies focus on the use of a teaching approach described as 'Self-Regulated Strategy Development' (SRSD), derived from the work of Harris & Graham, 1996, cited in Graham & Harris, 2005; see also Graham, Harris & Reid, 1992; Graham, Harris & Mason, 2005). This originated as an intervention approach, aimed at improving the writing of struggling writers, but has since been tested in a wide variety of settings among a variety of pupil populations. It will be seen below that the SRSD approach includes all but one of the eight components considered by the WWC panel, the exception being 'encouraging pupils to use strategies flexibly'. The recommendations reveal many similarities with the key features of Talk for Writing.

Similarities between Self-Regulated Strategy Development (SRSD) and Talk for Writing (T4W)
There are a number of interesting similarities between SRSD and T4W. Firstly, they are both grounded in multiple theoretical approaches. They both represent a blending of what is known from different perspectives and lines of research. Pupils' perceptions of what they are learning, how they are learning it and why they are learning it are seen as important to effective teaching (Harris and Graham, 2009, p. 113).

Secondly, reviews of research that have been undertaken separately for SRSD and T4W have identified very similar theoretical perspectives. For SRSD, the 'four initial foundations' included dialogic approaches to intervention (e.g. Meichenbaum's work on cognitive behavior modification); Vygotskian theories; and work on meta-cognition and self-monitoring (e.g. Brown, Campione & Day, 1981, although the latter focuses on reading, rather than writing). A fourth foundation lies beyond the current scope of the PWP, strategies for use with adolescents with learning disabilities (Harris and Graham, 2009, p. 119). In the supporting discussion of SRSD, other similarities are noted, including discussion of the complexity of the writing process, the practices of expert writers, and the use of research syntheses to inform teaching.

Thirdly, the actual components of SRSD have much in common with T4W. The core of the SRSD approach is pupils' use of strategies for writing (a series of mental and physical acts to achieve writing goals). SRSD typically includes a range of features, each of which has been validated in the authors' research (Graham & Harris, 2005):
- strategies and specific techniques to frame writing for different purposes;
- gradual release of responsibility from teacher to pupil;
- selecting and using strategies;
- writing for a variety of purposes;
- writing for specific audience;
- use of exemplary texts;
- genre techniques.

Other SRSD features often include teaching the following:

- strategies to help the navigation of the writing process (e.g. setting goals);
- self-evaluation and self-reinforcement;
- self-monitoring e.g. counting and graphing writing features;
- discussion of how a strategy can be used in particular contexts or adapted for use in other settings.

Some of the mnemonic-based strategies, and details of their initial validation studies, are set out in Appendix 1.

There are also a number of distinctive features of T4W, including a greater attention to the mastery of model texts (including using rote learning to support 'talking the text', where appropriate); a more sustained revisiting of specific text types; and a greater range of customized writer toolkits. T4W also appears to have greater face validity for Early Years children, as the illustrative material based on traditional tales may suggest (Corbett and Strong, 2011, pp. 56–7). Overall though, the Self-Regulated Strategy Development and Talk for Writing reflect some important commonalities, particularly strategies and specific techniques to frame writing for different purposes; writing for a variety of purposes; genre techniques and self-evaluation and self-reinforcement. One of the most salient similarities between SRSD and T4W is the way sustained attention to a text type is balanced with the gradual shift of responsibility from teacher to pupil for tackling the related writing. The significance of this approach is underlined in the report from USA's Department of Education (Graham, et al. 2012), a summary of whose main findings now follow.

<u>Strong Evidence (when implemented together): Teach pupils (a) to use the writing process (b) to write for a variety of purposes</u>
This recommendation is based on 25 studies providing causal evidence that pupils become more effective writers from being taught each component of the writing process and from being supported until they are able to apply these strategies independently. Seventeen of these studies examined interventions labelled as 'SRSD'.

This two-sided recommendation is also based on the recognition that good writing involves more than a simple documentation of ideas: writing requires thinking about the purpose for writing; planning what to say and how to say it; and understanding what the reader needs. The strength of evidence is reached after consideration of the following components:

For (a) 'to use the writing process', the components were 'strategies' (e.g. Graham & Harris, 2005); 'gradual release of responsibility from teacher to student' (e.g. Glaser & Brunstein (2007), 'select and use strategies' (e.g. Tracy, Reid, & Graham, 2009) and 'flexible use' (e.g. Garcia-Sanchez & Fidalgo-Redondo, 2006). Appendix 2 provides a summary of an example RCT study of the use the writing

process: Glaser & Brunstein (2007). The study is judged to contain the following: 'strategies', 'gradual release' and 'select and use strategies' (as well as others from the recommendation 'to write for a variety of purposes').

For (b) 'to write for a variety of purposes', the components were: 'purpose' (e.g. Sawyer, Graham & Harris, 1992), 'audience' (e.g. Ferretti, Lewis, & Andrews-Weckerly, 2009), 'exemplary texts' (e.g. Gambrell & Chasen,1991) and 'genre techniques' (e.g. Ferretti, MacArthur, & Dowdy, 2000).

Appendix 3 provides a summary of an example RCT study of writing for a variety of purposes (Tracy, Reid, & Graham, 2009).The study is judged to contain the following components: 'purpose', 'audience', 'exemplary texts' and 'genre techniques' (as well as others from 'to use the writing process').

Appendix 4 provides a summary of an example RCT study on the teaching of handwriting: Graham, Harris, & Fink (2000); Appendix 5 provides a summary of an example RCT study on the teaching of spelling and composition (Berninger et al., 2002). The panel notes that, although studies of the handwriting and spelling interventions generally showed positive effects on pupils' handwriting and spelling skills, few studies tested the effect on the overall quality of writing. Those that did found no evidence that handwriting and spelling practices led to improvements, as increasing overall writing quality may well require teaching and practice in the strategies and techniques used to convey ideas more effectively. The panel notes that immediate effects of spelling and handwriting on overall writing quality are unlikely as elementary pupils are likely to continue to face considerable challenges in spelling, handwriting, and word processing following a brief intervention. However, these skills will gradually become more automatic and pupils will increasingly focus on the quality of their writing.

Appendix 6 provides a summary of an example RCT study on the teaching of sentence-construction: Saddler & Graham (2005). The panel state that mastering sentence-construction skills is essential in learning to write. Limited sentence-construction skills may hinder a writer's ability to translate ideas into text. As developing writers must devote considerable cognitive effort to sentence construction, limited sentence-construction skills may also inhibit or interfere with other composing processes.

<u>Moderate Evidence: Teach pupils to become fluent with handwriting, spelling, sentence construction, typing, and word processing.</u>
This recommendation is based on nine studies of pupils in the 6-10 age-range. Seven of the nine studies were conducted with children who were at risk for writing difficulties, the exceptions being the studies by Saddler & Graham (2005), summarised above, and Jones (1994). All but two of the studies involved teaching provided for pairs or small groups of pupils.

The recommendation was made after the panel had examined separately the research on the effectiveness of instruction in handwriting, spelling, sentence construction, and typing and word processing. The recommendation is based on the recognition that, when basic writing skills become relatively effortless for pupils, they can focus relatively more on communicating and developing. However, younger writers must typically devote considerable attention to acquiring and polishing these skills before they become proficient. Basic writing problems impact upon writing quality: young writers are less likely to use words they cannot spell; sentences varying in length and complexity are needed to engage readers; spelling mistakes and poor handwriting impede audience understanding. However, word-processing programs may ease some aspects of writing and typing skill can help pupils compose more easily.

The panel cautions that the effects seen in the Moderate Evidence studies may not be replicated when the intervention is provided to a whole class or if the teaching is not tailored to areas of individual pupil need. However, the panel believes similar effects would be seen in whole-class teaching with some tailoring of instruction for individual pupils, such as providing handwriting teaching only to pupils struggling with handwriting.

Hardly any RCT studies were found of the effects of word processing and typing interventions on writing outcomes. One study found that practising writing using a word processor led pupils to produce longer texts, but no other eligible measures were assessed in the study (Jones, 1994).

The panel concludes that teaching in basic writing skills should be accompanied by the teaching of the tools for effective writing (see Strong Evidence section above), as well as time to practise such skills and tools (see Minimal Evidence section below) in order to produce gains in overall writing quality.

Minimal Evidence: Provide daily time for pupils to write
The panel consider that providing adequate time for pupils to write is one essential element of an effective teaching programme. Pupils need dedicated teaching time to learn the skills and strategies necessary to become effective writers, as well as time to practise what they learn. However, recent surveys of elementary teachers in the USA indicate that pupils spend little time writing during the school day (Cutler & Graham, 2008).

Research has not explicitly examined whether providing daily opportunities to write leads to better writing outcomes than providing less frequent writing opportunities. One study did conclude that pupils who were given extra teaching time in writing had improved writing quality relative to pupils who did not receive extra teaching (Berninger et al., 2006, Study 4). Ninety 'at risk' Y5 pupils took part in before- or after-school writing clubs, twice a week for an hour over seven months (64 sessions). The pupils showed a significant improvement in overall writing quality compared with similar pupils who had regular classroom teaching but who did not attend the writing clubs. Pupils assigned to the writing clubs also demonstrated greater improvement on a standardized measure of sentence structure. The

additional teaching time in the clubs included teaching in the genre-specific writing strategies, aligned with the practices described in the Strong Evidence section above.

<u>Minimal Evidence: Create an engaged community of writers</u>
The panel suggest that pupils need both the skill and the will to develop as writers. Teachers should establish a supportive environment in their classroom to foster a 'community of writers' who are motivated to write well. The panel also suggest that, in order to create a supportive writing environment, teachers participate as writers, not simply instructors, to demonstrate the importance of writing.

To further develop pupils' motivation to write, teachers should include opportunities for them to choose their own topics and/or modify teacher-selected prompts related to the purposes and genres being taught. When pupils choose their own topics, they may become more engaged and motivated to write. Such engagement and motivation could potentially lead pupils to write more frequently and become more involved in the writing process and the writing community. Appendix 7 provides a summary of an example RCT related to creating an engaged community of writers: Yarrow & Topping (2001).

Pupils and teachers also should have regular and structured opportunities to interact by giving and receiving feedback as well as collaborating on writing activities. Collaboration increases the sense of community in a classroom, as well as encouraging pupils to become engaged in the writing process with their peers. When pupils feel connected to one another and to the teacher, they may feel safe participating in the writing process and sharing their writing with peers. Publishing pupils' work also can help them feel valued in their community.

Concluding comments
Talk for Writing (T4W) represents a new synthesis of teaching practices, focused on the extensive use of classroom talk to help children become familiar with a range of text genres. For each genre, this familiarisation is extended through 'talking the text', shared and guided teaching and pupils' independent writing of the same type of text. Many of the shared and guided elements have been validated in the research underpinning the national literacy strategy. Other T4W practices are commensurate with more recent research reviews, especially those that have highlighted the effectiveness of Self-Regulated Strategy Development (SRSD), which has similar theoretical foundations. There are also common elements between the two approaches, particularly strategies to frame writing for different purposes, to adopt genre-specific techniques, and to encourage self-evaluation and self-reinforcement. Both SRSD and T4W also balance sustained attention to a text type with a gradual shift of responsibility from teacher to pupils in tackling the related writing. There are a number of distinctive elements in T4W, including a greater attention to the mastery of model texts (with some use of memorisation in 'talking the text'), adapting practices that have been validated in second language teaching. There is also a more sustained revisiting of specific text types and provision for a greater range of customised writer toolkits. T4W also appears to have greater face

validity for Early Years children, as the illustrative material based on traditional tales may suggest (Corbett & Strong, 2011, pp. 56–7). Some elements of T4W may not yet have been validated by systematic investigations but, together, they appear to be impacting upon school practices in ways that teachers find effective and that pupils find appealing. Continuing evaluation work will indicate the ways in which T4W, and the Primary Writing Project as a whole, make a significant contribution to raising writing attainment

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Appendix 1
Self-Regulated Strategy Development validation studies

PLEASE ('**P**ick, List, **E**valuate, **A**ctivate, **S**upply, **E**nd')
Validation in 6th Grade study: Welch, M. (1992). The PLEASE Strategy: A Metacognitive Learning Strategy for Improving the Paragraph Writing of Students with Mild Learning Disabilities. *Learning Disability Quarterly*, *15*(2), 119–128.
This study investigated the effectiveness of a metacognitive strategy, the PLEASE strategy, for teaching Y7 students (n=7; 11) with learning disabilities to write paragraphs. The investigation examined (a) students' metacognitive knowledge about prewriting planning, composition, revision, and parts of the paragraph; (b) student writing samples; and (c) student attitudes toward writing paragraphs. Results suggest that, compared to the traditional language arts curriculum used with a comparison group, the experimental treatment was significantly more effective in developing the metacognitive abilities of 6th graders with learning disabilities for prewriting planning, composition, and revision. Findings also suggest that students' attitude toward writing and writing instruction improved significantly following the experimental treatment.

PLANS (**P**ick goals, **L**ist ways **A**nd make **N**otes)
Validation in 5th Grade study: Graham, S., Macarthur, C., Schwartz, S., Page-Voth, V. (1992). Improving the compositions of students with learning disabilities using a strategy involving product and process goal setting, *Exceptional Children*, *58*(4), 322–334.
This study examined if a planning and writing strategy would improve the essay writing of students with learning disabilities. Four 5th graders were taught a strategy designed to facilitate the setting of product and process goals, generation and organization of notes, continued planning during writing, and evaluation of goal attainment. Ss' IQ scores ranged between 85–215 on an individually administered intelligence test. Training effects were investigated using a multiple probe design across Ss. Strategy instruction had a positive effect on students' essay writing performance and knowledge of the writing process, and effects were maintained over time. Evidence on the transfer effects of instruction to story writing was mixed.

STOP AND LIST (**Stop**, Think of Purposes, **List** ideas, Sequence them)
Validation in 4th and 5th Grade studies, respectively: Troia, G.A., Harris, K. and Graham, S. (1999). in Teaching students with learning disabilities to mindfully plan when writing, *Exceptional Children*, *65*, 215–252
In this study, fifth-grade students with learning disabilities received instruction designed to help them incorporate three common planning strategies into their current approach to writing. Students learned to set goals, brainstorm ideas, and sequence their ideas while writing stories and completing self-selected homework assignments. To facilitate maintenance and generalization, instruction included a variety of procedures for inducing the thoughtful or mindful application of the planning strategies. Following instruction, planning became a prominent part of the composing process, as students spent as much time planning papers as writing them. Correspondingly, the schematic structure of students' stories improved and their papers became longer. These effects generalized to a second, uninstructed genre, persuasive essay writing, and were generally maintained over time.

Troia, G.A. and Graham, S. (2002). The effectiveness of a highly explicit, teacher-directed strategy instruction routine: Changing the writing performance of students with learning disabilities, *Journal of Learning Disabilities, 35*, 290–305
This study examined the effectiveness of a highly explicit, teacher-directed instructional routine used to teach three planning strategies for writing to fourth and fifth graders with learning disabilities. In comparison to peers who received process writing instruction, children who were taught the three planning strategies—goal setting, brainstorming, and organizing—spent more time planning stories in advance of writing and produced stories that were qualitatively better. One month after the end of instruction, students who had been taught the strategies not only maintained their advantage in story quality but also produced longer stories than those produced by their peers who were taught process writing. However, the highly explicit, teacher-directed strategy instructional routine used in this study did not promote transfer to an uninstructed genre, persuasive essay writing. These findings are discussed in terms of their relevance to effective writing instruction practices for students with learning disabilities.

PEER REVISION
Validation in 5th and 6th Grade study: MacArthur, C.A.; Schwartz, S. S. Graham, S. (1991). Effects of a reciprocal peer revision strategy in special education classrooms, *Learning Disabilities Research & Practice*, *6*(4), 201–210.
This study investigated the impact of a reciprocal peer editing strategy on 29 learning disabled 4th-, 5th-, and 6th-grade students' knowledge about writing and revising, their actual revising activity, and the quality of their writing. Students learned to work in pairs to help each other improve their compositions. The strategy was taught by special education teachers who were using a process approach to writing instruction in their classrooms and word processing to support the writing process. Students in the strategy group made more revisions and produced papers of higher quality when revising with peer support than Students in a process approach control group. On a metacognitive interview, strategy Students demonstrated greater awareness of substantive criteria for evaluating writing in response to general questions about evaluating and revising particular papers.

CDO (Compare, Diagnose, Operate)
Validation in 5th and 6th Grade study: Graham, S. (1997). Executive control in the revising of students with learning and writing difficulties, *Journal of Educational Psychology*, 89, 2, 223–4.
The role of executive control in the revising difficulties of 12 fifth and sixth graders with writing and learning problems was studied. Procedural support made revising easier for participating students, but their difficulties were not due solely to difficulties with executive control. Implications for instruction are discussed.

SUMMARY WRITING
Validation in 4th and 6th Grade study: Nelson et al. (1992). The effects of teaching a summary skills strategy to students identified as learning disabled on their comprehension of science text. *Education and Treatment of Children*, 15, 228–43.
The effects of a summary skills learning strategy on the comprehension of science text were examined with 5 elementary-age urban minority special education students in a summer remedial program. The program's effect on the overall completeness of the students' written summaries and the maintenance of the strategy also were examined. Following baseline, the summary skills strategy was introduced in both group and individual reading settings according to a multiple baseline across settings design. Student performance was assessed in both setting, and maintenance was probed at 4 weeks in the individual reading setting. The strategy produced clear improvement in the comprehension of science text, which was associated with similar improvements in the completeness of the written summaries. The students reported that the summary skills strategy was effective for helping them understand science text. Furthermore, a group of 15 general education elementary school teachers thought that the strategy was effective and that it would be easy to implement.

Appendix 2
Summary of Glaser & Brunstein (2007)
Y5 pupils (N=41) from three middle-class schools in Germany, who were taught composition strategies in conjunction with 'self-regulation' procedures in four 90-minute sessions (see below for session details), wrote more complete and qualitatively better than comparison pupils from the same schools who (a) were taught the same strategies but received no teaching in self-regulation (N=34) and (b) received didactic lessons in composition (N=39). The target pupils ('strategy plus self-regulation') also did better in recalling essential parts of an orally presented story. The target pupils' higher attainment was evident at the end of the taught programme and also five weeks after the programme had ended.

'Composition strategies' included: developing and discussing background knowledge; modelling, memorising and supporting genre features; independent writing. 'Self-regulation procedures' included explicit instruction and modelling of, followed by guided and independent practice in: self-monitoring of strategic planning; self-assessment of writing performance; self-monitoring of revision activities; and criteria-setting and procedural goals**.**

Session 1
Explanation and discussion of structural elements and expressive features of good narratives; and mnemonic for major story parts
Teaching and learning of mnemonic for story paragraphs and 7-W questions (who, where, when, etc).
Modelling and guided use of self-assessment checklist

Session 2
Teacher modelling of planning chart to generate content and set criterion-based and procedural goals
Pupils learn self-monitoring of accuracy in composing strategies (picture story) and set goals for new story and self-improvement
Teacher support for assessing pupils' own stories. Use of self-assessment to monitor revision.

Session 3
Group collaboration to draft and plan a picture story and shared experience with goal-setting procedures.
Collaborative practice in assessing quality of stories and jointly monitored revision activities when planning how to revise drafts

Session 4
Independent planning and composing of picture story and autonomous setting of criterion-based and procedural goals
Independent self-assessment of writing achievement and revision of drafts in line with self-evaluation.

Appendix 3
Summary of Tracy, Reid & Graham (2009)
Y4 pupils (N= 64) from three randomly assigned classrooms in a rural elementary school were taught a general strategy and a genre-specific strategy for planning and writing stories; procedures for regulating the use of these strategies, the writing process and their writing behaviours; and knowledge about the basic purpose and characteristics of good stories (see below for session details).

A Y4 comparison group (N= 63) from three randomly assigned classrooms in the same school received traditional skills teaching (mostly on spelling, grammar etc.). Texts were entered into a Word document, with identifying information removed and spelling and punctuation corrected, before the texts were rated. The target pupils wrote longer, schematically stronger and qualitatively better stories (from line-drawn picture prompts). The target pupils' attainment was also higher in a similar but untaught genre, personal narrative, completed before and two weeks after the intervention.

The teaching followed the Self-Regulated Strategy Development (SRSD) based on the work of Harris & Graham (1996) which emphasizes pupils' independent use of writing strategies and accompanying self-regulation procedures.

Pupils were first taught a general planning strategy represented by the mnemonic device POW:
1. *Pick my idea* (i.e. decide what to write about),
2. *Organize my notes* (i.e. organize possible writing ideas into a writing plan) To help them carry out the second step of POW (organize my notes), they were also taught a genre-specific strategy that prompted them to generate ideas for each of the basic parts of a story. In using this strategy, pupils ask themselves the following questions before writing (represented by the mnemonic device WWW; two 'What' and two 'How' questions): Who are the main characters? When does the story take place? Where does the story take place? What do the main characters do or want to do? What happens next? How do the main characters feel? How does that story end? For each question, pupils generate notes on possible ideas that they may use in their story.
3. *Write and say more* (i.e. make changes and increase the amount that is written).

In the first stage of instruction, *develop background knowledge*, pupils acquired the knowledge and skills needed to apply the planning and writing strategies. First, POW and its steps were introduced, and the teacher and pupils discussed what it stood for and why each step was important. Before moving to the next activity, pupils explained the three steps and the importance of each step. Pupils were then asked the question, "What is a good story?" In discussing what makes a good story, the teacher emphasized that a good story has many characteristics, and pupils should remember that a good story (a) makes sense, (b) is fun to write and read, (c) uses interesting vocabulary or "million dollar" words, and (d) includes all seven story parts.

To help pupils remember these seven parts, a mnemonic device (WWW; 2 What and 2 How questions) was introduced as a trick for remembering them. Pupils then listened as the teacher read a story, with the children helping the teacher identify each of the seven parts. As pupils identified and described each part, the teacher wrote it in the appropriate section of a chart with the story part reminder. This continued with additional stories until pupils could identify all parts accurately. Last, the term *transfer* was introduced to explain how a strategy could be used in other places or situations. Pupils were asked to identify where they could use these types of strategies and set a goal to use what had been learned before the next session. A few minutes during each succeeding lesson were spent rehearsing POW and the story part mnemonic device, as well as what they stood for, until pupils memorized them.

In the second stage of instruction, *discuss it*, pupils further considered the rationale for using the strategy. Self-monitoring procedures were introduced as well. Each child analyzed their baseline story to determine how many of the seven story parts were included in the story (i.e. self-monitoring). Pupils then graphed the number of parts in their story by colouring the corresponding number of segments on a rocket ship with seven segments. Next, teacher and pupils discussed which parts were or were not included. The teacher established that the pupils' goal was to include all seven parts when writing a story and emphasized that even if a story part was included, it could be improved (e.g. adding additional detail). Most importantly, the teacher and pupils discussed how using POW and the WWW mnemonic devices could improve story writing. At the end of the session, the teacher asked the pupils to identify how they had used some aspect of what they had learned since the previous session. The responses were discussed and written on a chart. The pupils then set a new goal to use what they had learned outside of the instructional setting. This process of identifying instances of transfer, discussion, and goal setting continued in all subsequent sessions.

In the third stage of instruction, *model it*, the teacher showed pupils how to apply the strategies and introduced the concept of self-instruction. Before writing a story, the teacher discussed with pupils that the goal of writing a story is to have it make sense, use "million dollar" words, make it fun to write, and include all seven parts. The teacher then modelled, speaking out loud, how to plan and write a story using POW and the story parts reminder (WWW).

The pupils helped the teacher by generating ideas for the parts of the story as well as additional ideas while writing it. They recorded their notes for the story on a graphic organizer that included a prompt for each part of the WWW mnemonic device. While modelling, the teacher used a variety of self-statements to assist with problem definition (e.g. What do I have to do here?), planning (e.g., What comes next?), self-evaluation (e.g. Does that make sense?), self-reinforcement (e.g. I really like that part!), and coping (e.g., I'm almost finished!). Once the story was completed, the importance of what one says to oneself was discussed, and the types of self-statements used by the teacher were identified. Pupils identified at least three self-statements that they would use while

writing and recorded them on a small chart. The teacher and pupils also verified that all seven elements were included in the story, highlighting each element and graphing the results. The teacher and pupils further discussed why it was important to write papers that contained enough detail, and they counted and graphed the number of words in the story. The teacher praised pupils for their hard work and effort; such praise was delivered where appropriate in all preceding lessons.

The next stage, *support it*, started with a collaborative writing experience. First, the teacher and pupils set a goal to include all seven parts in the story. Second, they planned the story together using POW, the story parts reminder, the graphic organizer, and pupils' self-statements. However, this time pupils directed the process, and the teacher only provided support as needed. Third, using the collaboratively generated notes, pupils wrote their own story. Fourth, after the story was completed, the pupil identified each story part by highlighting it. Then each pupil determined if he or she had met the goal and graphed the results. They also graphed the number of words written. Last, the teacher and pupils discussed how the strategies helped to write a better story.

In subsequent sessions, pupils were gradually weaned from relying on the planning graphic organizer. The teacher explained that the graphic organizer was helpful but would not always be readily accessible when the child wanted to write a story. Pupils were taught to write the story part reminder at the top of the page to assist them in planning and writing a complete story. Pupils continued to set a goal of including all seven parts and graphed their success in doing so as well as the number of words written. For all of the papers written during this stage, the teacher provided support and encouragement as needed, but the level of assistance was less.

The final stage, *independent performance*, was reached when pupils could successfully write a story with all seven story elements independently without assistance from the teacher. They continued to set a goal to include all seven parts of the story and increase the amount of words that were written in their stories, and they graphed their progress.

Appendix 4
Summary of an example RCT study of RCT study on the teaching of handwriting: Graham, Harris & Fink (2000)

The contribution of handwriting to learning to write was examined in an experimental training study involving beginning writers with and without an identified disability. Y2 children (N=18) experiencing handwriting and writing difficulties participated in 27 fifteen-minute sessions designed to improve the accuracy and fluency of their handwriting. In comparison to another group of children who received teaching in phonological awareness, pupils in the handwriting group made greater gains in handwriting as well as compositional fluency immediately after the intervention and also 6 months later. The positive effects were similar for pupils with and without an identified disability.

The findings indicate that handwriting is causally related to writing and that explicit and supplemental handwriting teaching is an important element in preventing writing difficulties in the primary grades.

Appendix 5
Summary of an example RCT study on the teaching of spelling and composition (Berninger et al., 2002)

Y4 low-attaining pupils (N=96) were randomly assigned to one of four programmes lasting 24 x 20-minute lessons over 4 months: spelling (alphabetic principle plus its alternations); composing (reflective discussion plus teacher scaffolding) and combined spelling (alphabetic principle) plus composing (teacher scaffolding). The comparison group were given writing practice only.

All four programmes increased compositional fluency. Only combined spelling plus composing increased both spelling and composing.

Appendix 6
Summary of an example RCT study on the teaching of sentence-construction: Saddler & Graham (2005)

Y5 pupils (N=22) were taught sentence-combining skills, in pairs, for 30 sessions of 25 minutes each. Compared with peers receiving traditional grammar teaching in pairs, the pupils taught sentence-combining became more adept at combining simpler sentences into more complex sentences. These sentence-combining skills produced improved story writing and were also used in the revision of texts.

The authors also raise the following points. Curricula taught over a longer time period or longitudinal studies may strengthen the results of this intervention. However, although we know that sentence-combining instruction can improve the ability to write more varied and syntactically complex sentences, we do not know yet how best to transfer this skill to connected writing. Nor do we know the age-range when such teaching might be most effective. Also, because this teaching was not done by the classroom teacher, and was not part of the normal classroom provision, contextual studies of this teaching under normal classroom conditions is needed. In particular, future studies might examine if sentence-combining activities taught in a more interactive manner, in which pupils are co-constructing texts, would be more effective than more direct teaching approaches.

Appendix 7
Summary of an example RCT related to creating an engaged community of writers: Yarrow & Topping (2001)
A class of 28 Y6 Scottish pupils received training in Paired Writing and its inherent metacognitive prompting. [Add brief explanation.] Children matched by gender and pre-test writing scores were assigned randomly as follows: 'Interaction', in which the more able writers became 'tutors' for the less able; 'No Interaction' in which the more able writers acted as controls for the tutors and the less able as controls for the tutees. Over six weeks (24 sessions), the paired writers produced five pieces of personal writing collaboratively, while children in the 'No Interaction' condition did so alone.

All groups showed statistically significant improvements in writing but the gains of the children who wrote interactively were significantly greater than those of the lone writers. There was also some evidence that the paired writers also had more positive self-esteem as writers. The authors discuss the relative contribution of 'metacognitive prompting' and scaffolding to improvements in pupil writing quality of writing and attitudes to writing.

Appendix 8
Meta-analysis of true- and quasi-experimental writing intervention research (Grades 4–12) (Gillespie & Graham, 2010, based on Graham & Perin, 2007)
The authors accept that advice from professional writers and the experiences of successful writing teachers offer some guidance in developing sound writing practices. However, they argue that these accounts are frequently based on testimonials involving the writing development of an individual or a single classroom. This makes it difficult to understand how or why a writing strategy was effective and what elements of the strategy would be essential to make it work in new situations. The authors argue that scientific studies of writing interventions provide a more trustworthy approach for identifying effective methods for teaching writing. Such studies can provide evidence of the size of the effect of a writing intervention, how confident one can be in the study's results, and how replicable the writing strategy is in new settings with new populations of pupils. In this analysis, the authors located 123 documents focusing on writing in the 9-18 age-range. Evidence of the effectiveness of each teaching approach was compiled from research studies that met the following criteria:

- a minimum of four studies showing the effectiveness of an approach;
- the performance of one pupil group was compared to the performance of another receiving a different or no writing intervention;
- each study met research quality standards;
- pupils' overall writing quality was assessed after the study was completed.

An average weighted effect size [add explanation of weighting] was calculated for each teaching approach. The effect sizes varied from 0.82 for 'Writing strategies' to 0.25 for 'Study of Models' (see Graham & Perin, 2007). The list of recommended teaching approaches is listed below according to the size their effects, with the strongest first. It should be noted that the effects of some interventions differ minimally from the effects of others; it should also not be assumed that only the first few strategies should be implemented. The authors encourage teachers to use a combination of strategies to best meet the needs of their pupils.

Effective writing practices, in order of effectiveness
Writing strategies: Explicitly teach pupils strategies for planning, revising, and editing their written products. This may involve teaching general processes (e.g., brainstorming or editing) or more specific elements, such as steps for writing a persuasive essay. In either case, we recommend that teachers model the strategy, provide assistance as pupils practice using the strategy on their own, and allow for independent practice with the strategy once they have learned it.

Summarizing text: Explicitly teach pupils procedures for summarizing what they read. Summarization allows pupils to practice concise, clear writing to convey an accurate message of the main ideas in a text. Teaching summary writing can involve explicit strategies for producing effective summaries or gradual fading of models of a good summary as pupils become more proficient with the skill.

Collaborative writing: Allow pupils to work together to plan, write, edit, and revise their writing. We recommend that teachers provide a structure for cooperative writing and explicit expectations for individual performance within their cooperative groups or partnerships. For example, if the class is working on using descriptive adjectives in their compositions, one student could be assigned to review another's writing. He or she could provide positive feedback, noting several instances of using descriptive vocabulary, and provide constructive feedback, identifying several sentences that could be enhanced with additional adjectives. After this, the pupils could switch roles and repeat the process.

Goals: Set specific goals for the writing assignments that pupils are to complete. The goals can be established by the teacher or created by the class themselves, with review from the teacher to ensure they are appropriate and attainable. Goals can include (but are not limited to) adding more ideas to a paper or including specific elements of a writing genre (e.g., in an opinion essay include at least three reasons supporting your belief). Setting specific

product goals can foster motivation, and teachers can continue to motivate pupils by providing reinforcement when they reach their goals.

Word processing: Allow pupils to use a computer for completing written tasks. With a computer, text can be added, deleted, and moved easily. Furthermore, pupils can access tools, such as spell check, to enhance their written compositions. As with any technology, teachers should provide guidance on proper use of the computer and any relevant software before pupils use the computer to compose independently.

Sentence combining: Explicitly teach pupils to write more complex and sophisticated sentences. Sentence combining involves teacher modelling of how to combine two or more related sentences to create a more complex one. Pupils should be encouraged to apply the sentence construction skills as they write or revise.

Process writing: Implement flexible, but practical classroom routines that provide pupils with extended opportunities for practicing the cycle of planning, writing, and reviewing their compositions. The process approach also involves: writing for authentic audiences, personal responsibility for written work, student-to-student interactions throughout the writing process, and self-evaluation of writing.

Inquiry: Set writing assignments that require use of inquiry skills. Successful inquiry activities include establishing a clear goal for writing (e.g., write a story about conflict in the playground), examination of concrete data using specific strategies (e.g., observation of pupils arguing in the playground and recording their reactions), and translation of what was learned into one or more compositions.

Prewriting: Engage pupils in activities prior to writing that help them produce and organize their ideas. Prewriting can involve tasks that encourage pupils to access what they already know, do research about a topic they are not familiar with, or arrange their ideas visually (e.g., graphic organizer) before writing.

Models: Provide pupils with good models of the type of writing they are expected to produce. Teachers should analyze the models with their class, encouraging pupils to imitate in their own writing the critical and effective elements shown in the models.

Appendix 9
Meta-analysis of single subject design writing intervention research (Rogers & Graham, 2008)
This review extends an earlier meta-analysis of true- and quasi-experimental writing intervention research (Graham & Perin, 2007; see Appendix 7) to identify effective teaching approaches by conducting a meta-analysis of 'single subject design' writing intervention studies. The authors explain that single subject intervention studies are also 'experimental', as they investigate whether a teaching approach is responsible for observed changes. However, 'controls' are obtained through repeated measures of each pupil's attainment. External validity is obtained by systematic replication across different participants, locations and researchers.

The authors located 88 single subject design studies where it was possible to calculate an effect size. They calculated an average effect size for treatments that were tested in 4 or more studies, using a similar outcome measure in each study. This resulted in the identification of 9 writing treatments that were supported as effective.

These were strategy instruction for
- planning/drafting;
- teaching grammar and usage;
- goal setting for productivity;
- strategy instruction for editing;
- writing with a word processor;
- reinforcing specific writing outcomes;
- use of prewriting activities;
- teaching sentence construction skills;
- strategy instruction for paragraph writing.

Appendix 10
Beliefs about the Teaching of Writing (NCTE, 2004)
This is a summary of current beliefs from a North American professional association. It begins by noting that just as the nature of, and expectation for, literacy has changed in the past century and a half, so has the nature of writing. Much of that change has been due to technological developments which have not only expanded the types of texts that writers produce but expanded immediate access to a wider variety of readers. With full recognition that writing is an increasingly multifaceted activity, association offers several principles that should guide effective teaching practice. For each, a summary of state of the art knowledge is followed by a statement of what this means for teaching.
- Everyone has the capacity to write, writing can be taught, and teachers can help pupils become better writers;
- People learn to write by writing;

- Writing is a process;
- Writing is a tool for thinking;
- Writing grows out of many different purposes;
- Conventions of finished and edited texts are important to readers and therefore to writers;
- Writing and reading are related;
- Writing has a complex relationship to talk;
- Literate practices are embedded in complicated social relationships;
- Composing occurs in different modalities and technologies;
- Assessment of writing involves complex, informed, human judgment.