From Talking to Writing: Linguistic Development in Writing

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Structured Abstract

Background

Previous research in linguistic development in writing has primarily addressed the acquisition of writing, early linguistic development of writing, and spoken-written interactions in the primary phase. This study explored linguistic development in older writers in the secondary phase.

Aims

The aims of this two year study were to investigate both the linguistic constructions in secondary-aged students' writing, and to explore their understanding of their own writing processes.

Sample

The data reported here draws on the first year data collection: a sample comprising two pieces of writing, narrative and argument, drawn from pupils in year 8 (aged 12-13) and year 10 (aged 14-15). The writing sample was stratified by age, gender and writing quality.

Methods

The writing was subject to linguistic analysis at both sentence and text level, using purpose-built coding frames and a qualitative analysis sheet.

Results

The linguistic analysis indicates that the patterns of linguistic development show that the influences of oral speech characteristics are strongest in weaker writing than good writing.

Conclusions

Cognitive research into the translation from thought to text needs to address more explicitly the fact that good writing requires not only production of text, but also shaping of text. Although it is well-understood that learning to be a writer draws on 'talk knowledge', this study makes it clear that one key element in learning to write with accomplishment is, in part at least, learning how **not** to write the way you talk, or rather acquiring adeptness in transforming oral structures into written structures.

Introduction

The history of research in the learning and teaching of writing is not characterised by a unified and incremental body of empirical, theoretical and professional knowledge. Rather, it is a multi-layered, disparate and, at times, fragmented set of understandings concerning writing instruction. This is largely due to the very different methodological paradigms which are employed in research into writing. This is exemplified beautifully in the recent *Handbook of Writing Research* (Macarthur et al 2006), where the first five chapters, outlining theories and models of writing, shift from socio-cultural perspectives to cognitive psychological perspectives with relatively little in common. The affiliations of the list of contributors point to the multi-disciplinary nature of education as a field of enquiry: the contributors variously come from Faculties of Psychology, Education, English, the Arts, and Linguistics. In a book such as the present one, which is directed towards a discourse community familiar with the cognitive tradition, it is worth noting that cognitive perspectives are often positioned as of little value in educational settings which are, by their very nature, social settings. Indeed, Prior states that socio-cultural theory is '*the dominant paradigm for writing research today*' (Prior 2006:54) and Nystrand critiques cognitive research in writing for depicting '*writers as solitary individuals struggling mainly with their thoughts'* (Nystrand 2006:20).   However, a comprehensive educationally valid pedagogy for writing needs to adopt a pluralist stance and draw with insight on theoretical and empirical understandings from socio-cultural, psychological and linguistic domains. Our own research, in an attempt to develop this multi-disciplinary integration, has been framed by what we have called a tripartite model of enquiry, which looks at writing from writer-oriented, reader-oriented and text-oriented viewpoints. Superficially, each of these may seem to be located principally within one paradigm (writer = cognitive; reader = sociocultural; text = linguistic) but in practice, each orientation draws, albeit with different weight, on all three perspectives. In exploring the nature of linguistic development in writing, this chapter adopts a text-oriented stance: reader- and writer-oriented perspectives have been reported elsewhere (Myhill and Jones 2007; Myhill 2008a)

Linguistic development

The potential of linguistic analysis for providing appropriate descriptions of development in writing has not yet been fully realised. Over twenty years ago, Collins and Gentner (1980) argued for '*a new kind of linguistic analysis'* which would offer '*a linguistic theory of good structures for sentences, paragraphs, and texts'* (1980:53) and which would have corresponding implications for the teaching of writing. In a similar

vein, Kress (1994) critiqued linguistics for failing to provide '*the theoretical and methodological tools either for the analysis of writing … or for the analysis and understanding of the developmental processes and stages in the learning of writing.*' (1994:3).   And yet, there remains a fairly limited body of research in this area, and what there is has rarely been translated into classroom practice. In particular, there is relatively little extant enquiry into writing development in the secondary age range, mirroring the general tendency for language acquisition and language development studies to focus on the pre school and primary phases. As Perera notes, '*knowledge about the later stages of acquisition is slight in comparison with the considerable amount of information that has been accumulated about the first three years'* (1987:12).

Perera's (1987) study of linguistic development in children's writing aged 8-12 remains the most comprehensive study available. She took as her starting-point a recognition that there was no clearly-defined psycholinguistic theory of grammatical complexity, and investigated grammatical complexity by considering the sequence in which children acquire constructions, taking adult constructions as a sign of greater linguistic maturity. Her detailed analyses highlighted that the use of such things as the passive voice, subordination and greater lexical density increase as writers get older. This corresponds with both Crowhurst and Piche's (1979) and Verhoeven et al's (2002) findings that syntactic complexity developed with the age of the writer, and Allison et al's (2002) findings regarding increased subordination use. The length of syntactical units also appears to increase with age: for example, the length of noun phrases (Perera 1987), and the length of clauses (Harpin 1986).   These studies all appear to indicate that linguistic development is marked by an increased frequency of usage of a range of linguistic constructions.

One of the very few studies to look across the age range from primary to secondary (Hunt 1965) provides somewhat contradictory evidence. This study looked at writing from writer in the fourth, eighth and twelfth grade in US schools in an attempt to determine whether there were developmental trends in the frequency of various grammatical structures. His data suggested that the structures he studied "*are virtually all used by fourth graders and are used often enough and successfully enough to indicate that fourth graders command them. The study provides no justification for teaching some structures early and others late*" (Hunt 1965: 155).   Two more recent studies also consider writers beyond the primary phase. Haswell (2000) use factor analysis to investigate linguistic development in college writers and, just as with younger

writers, found that development was marked by an increase in both syntactical complexity and elaboration within the sentence. Massey et al (2005) adopt a rather different methodology and rather than considering development as a chronological factor look at indices of development across ability groupings, using GCSE grades. They found that there was more co-ordination present in the lower grades with a more limited use of subordination and that word length increased with increasing grades.

However, a simplistic identification that syntactic maturity increases with age and ability, though useful, is a rather narrow conceptualisation of linguistic development. Harpin (1986) argues that '*a simple linear model of growth towards linguistic, and particularly, syntactic maturity is clearly inadequate*' (1986:169). In particular, it adopts a uni-dimensional view of language and of text and is less concerned with meaning-making and with reader-writer relationships. Allison et al warn against formulaic approaches to teaching or assessment which veer towards merely identifying the presence or absence of syntactic features: instead they caution that the presence of linguistic constructions '*has to be set against the sense of authenticity in a piece of writing, as a child weaves the tapestry of vocabulary and grammar in ways which seem best to meet a particular communicative need at a particular time*' (2002:109). Likewise, in the context of college writing where he had found that sentence length increased with maturity, Haswell reminds us that it is not sentence length per se which is significant, but what a particular sentence achieves in terms of '*serving specific rhetorical motives, opting for syntactic and tonal choices that heighten register, generate rhetorical emphasis, and increase readability of thought units of a certain logical complexity*' (2000:338).

Lack of psychological research on language production

If linguistic development is concerned with increasing maturity and sophistication in management of production of words, sentences and texts, then it is important to understand the process of moving from an idea in the head to the words on the page. Most models of language production investigate speech production, rather than written production, and consider the process by which a speaker converts thought into spoken utterance (Bock and Levelt 1994; Bock 1995; Badecker and Kuminiack 2007) and Bock and Levelt's (1994) model of speech production has been applied to writing (Alarmargot and Chanquoy 2001:13) as a mechanism for explaining language production in text. Hartsuiker and Westenberg (2000) and Cleland and Pickering (2006) have argued, through syntactic priming analyses, for '*a model of*

language production where syntactic information is shared between written and spoken' (2006:194). In general, models of language production argue for either a three-stage process comprised of conception; formulation and articulation (Stallings and Macdonald 1998:394) or a two-stage model comprising conceptualisation and formulation (Cleland and Pickering 2006:186). The formulation stage, when the idea is shaped into words and sentences, has been further sub-divided into the functional processing stage, when the principal lexical items are retrieved from memory, and the positional processing stage, when the syntactical structures are shaped.

Within cognitive models of the writing process, this is the translating stage (Hayes and Flower 1980; Alarmargot and Chanquoy 2001). Translation is broadly conceived of as a process which bridges the gap between the initial conception of a thought or message and its eventual production as syntactically organised text. It involves both the selection of appropriate vocabulary and the structuring of words into sentences, and the organisation of sentences into paragraphs and texts. Collins and Gentner see this as the imposition of linguistic order upon ideas, a top-down process in which '*the idea must be expanded downward into paragraphs, sentences, words and letters'* (1980:67) and in similar vein, Negro and Chanquoy maintain that during translation '*the ideas collected during planning have to be formulated into words, and these words need to be ordered into grammatically and syntactically correct sentences to form a cohesive text'* (Negro and Chanquoy 2005:106). However, there is limited empirical enquiry into what occurs during the translation stage – the Hayes and Flower (1980) model has a box labelled 'translation' but there are no sub-processes identified. Two recent accounts of the translating process provide more detailed explanations of the sub-processes, and these have been represented on the table below:

[Insert Table 1 here]

But '*the study of how speakers turn messages into utterances'* (Bock 1995:181) is not a wholly satisfactory parallel for how writers turn messages into written texts: the demand on cognitive resources for writing is higher than for speech. Immature writers have to cope with the demands of transcription and even when these processes have become automatized, writing requires a more sophisticated shaping of language to meet the needs of an absent reader in contrast to the instant feedback provided by a conversation partner. Nor is it evident that '*the same set of sentences seem to be acceptable in written or*

spoken language', as Cleland and Pickering claim (2006:185), particularly given what we know from linguistics research about the significant linguistic differences between speech and writing, including syntactical differences. Alamargot and Chanquoy acknowledge that '*writing models remain unclear concerning the formulation of sentences from a preverbal message*' (2001:76) and Cleland and Pickering note that the limited research on sentence production focuses mostly on '*composition, planning and revising'* or the role of working memory (2006:186). This inattention to written sentence production may be because it is not perceived to be cognitively complex: Negro and Chanquoy postulate that the formulation stage of writing is easier to automate because it involves '*mainly the application of fixed rules'* (2005:106).

These understandings of sentence production over-simplify the process of writing to one which is merely a reproductive process of linguistic conversion of pre-verbal thought to syntactically correct writing; the very word 'translating' implies a linear trajectory from one mode to another, which once accomplished is complete. If syntactically correct sentences were the end point of this process, then this way of thinking might be sufficient, but successful writing is a transformative act, governed not simply by the content of the communicative message but governed also by the nature of the relationship with the intended reader and the challenge of creating text which is not simply speech written down. It is important to acknowledge that writing is '*material social practice in which meaning is actively made, rather than passively relayed or effortlessly produced'* (Micciche 2004: 719).

Role of speech into writing:

Whilst research into linguistic development may be limited and whilst cognitive psychology may be less secure in its accounts of linguistic production in writing, an understanding of the important relationships between speech and writing has been much more comprehensively investigated. Although speech and writing are in reality on a continuum, with some spoken genres, such as a formal speech, being very like writing, and some written genres, such as texting or email messaging being very close to speech, the linguistic distinctions between informal speech and formal writing (at either end of the speech-writing continuum) are well-understood. Writing is more lexically dense and integrated than speech (Czerniewska 1992; Perera 1987), and this is typically achieved through the use of constructions such as

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non-finite subordinate clauses, verbless subordinate clauses, ellipsis, nominalization, participial subordination and attributive adjectives. Moreover, the constructions used are frequently longer and more complex (Chafe, 1982; Drieman, 1962) and make greater use of passives (Perera 1984; O'Donnell 1974). Co-ordination, on the other hand, is a pattern of speech (Kress 1994; Czerniewska 1992), reflecting the greater use of repetition and chaining in speech in contrast to the joining of clauses in writing '*by the hierarchical processes of subordination, which gives a more tightly integrated texture to the language*' (Perera 1987:183).

For the developing writer, learning to write is, in part, about learning that writing is not speech written down: it is shaped and constructed differently and is governed by different grammatical and social conventions. A written sentence is not the same as a spoken utterance: the two texts below (English and Media Centre 1984:34) illustrate clearly the way a confident writer reshapes her oral telling of a story for the written medium.

[Insert Table 2 here]

These linguistic differences between spoken and written discourses represent more than an understanding that sentences are shaped differently from utterances: they are central to beginning to understand the demands of both text conventions and the needs of an absent reader. Crystal (1995:291) usefully draws attention to some of these important contrasts. Speech is time-bound and dynamic and once uttered cannot be 're-heard' or corrected, whereas writing is space-bound and static, and can be re-read and revised. Because of this, complex advance planning is less usual in speech than writing, and informal speech, in particular, is often spontaneous and unplanned. Most spoken dialogue is conducted face-to-face and so both speaker and listener can use facial expressions, modulation and gesture to support meaning, whereas writing distances the reader, and removes the possibility of immediate feedback. Writing cannot rely on the context for the creation or clarification of meaning and so the writer has to anticipate the reader's response. Wells and Chang note that young writers sometimes face difficulties in making this transfer from speech to writing: the lack of feedback from a conversational partner puts '*the major responsibility for sustaining the flow and connectedness of the text*' (1986:123) firmly on the writer.

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Young writers, therefore, need to master both the grammatical construction of written sentences and an ability to imagine how a reader might read their text. Achieving mastery of the sentence as a written 'unit of discourse' appears to happen earlier than the development of reader-awareness. Loban (1976) found written and oral language seemed to develop in parallel, but he did find a pattern whereby linguistic constructions identified in speech were not observed in writing until approximately a year later. Perera's (1986) study of speech and writing development that as children grew older their speech and writing became more clearly differentiated: '*on the one hand, as they get older they use in their writing grammatical constructions that are more advanced than those they use in speech; on the other hand, they use in their speech an increasing proportion of specifically oral constructions*' (1986:91). There were very few oral constructions in the writing of eight year olds and Perera argues that this indicates that '*children are differentiating the written from the spoken language and are not simply writing down what they would say'* (1986:96). This absence of transfer of speech forms into written forms is not universally recognized, however. Pea and Kurland maintain that young writers adopt a linear process of writing, what they call a 'memory dump', which represents '*a literal translation of oral speech conventions into written language'* (1987:293) and Massey et al's study of writing in examinations found an increase of both non-standard forms and colloquial, informal language. They observe that '*Increasingly writing seems to follow forms which would have been confined to speech in 1980. Sometimes this seems appropriate, but often it looks more like poor judgement or simply failure to appreciate the distinction*' (2005:64).

Making linguistic choices and shaping sentences and texts to satisfy the needs of an implied reader is more challenging. Flower (1979) argued that novices write '*writer based prose'* and experts write reader-based prose, mirroring Perera's description of writing development as being from writing for self to writing for another. Kroll (1978) calls this '*cognitive egocentrism'*, because at this stage writers have an undeveloped sense of 'other reader'. The distinction made by Bereiter and Scardamalia (1987) between the knowledge-telling phase and the knowledge-transforming phase will be familiar to most readers, but this also corresponds to developing from writing down what is in your head, more or less as it occurs, to thinking about how what you write might sound to another reader. The link between speech and writing is reiterated further in their contention that children, in general, are more confident with written narrative as it

is relatively closed in oral discourse; but the reverse holds for opinion essays (Bereiter and Scardamalia 1982:10) which are a more 'writerly' form.

Methodology

The data reported in this chapter is drawn from a two year study, conducted in England and funded by the Economic and Social Research Council, investigating both the linguistic constructions in young people's writing, and their understanding of their own writing processes.   In the first year, a sample of writing was collected comprising two pieces of writing, narrative and argument, drawn from pupils in year 8 (aged 12-13) and year 10 (aged 14-15). The writing was completed in a naturalistic classroom setting, led by the usual class teacher in a lesson where the writing was a focus of the teaching, rather than an outcome from a different focus. The narrative was a personal piece, written from experience, whereas the argument sample was writing which expressed a clear viewpoint. The argument sample was more diverse in style than the narratives, including letters of complaint, formal argument essays, and leaflets presenting an argument. These different types of argument do have different genre features and future research in this area might well investigate more closely how children's writing varies between genres. The sample was also stratified by writing quality, using nationally understood assessment systems: National Curriculum levels in year 8 (age 12-13) and General Certificate of Secondary Education (GCSE) grades in year 10 (age 14-15). These grades were given by the class teacher and each grade was checked and verified by the Project Director. Overall, the sample comprised 718 full pieces of writing, stratified by age, gender and writing quality.

[Insert Table 3 here]

The writing was analysed at both sentence and text level, using purpose-built coding frames and a qualitative analysis sheet. The latter permitted exemplification of the quantitative patterns identified through the statistical analysis. Full details of the methodology and coding frames can be found on the project website (www.people.ex.ac.uk/damyhill/patterns_and_processes.htm) and in Myhill (2008b), and Jones and Myhill (2007).

Findings

This chapter will draw on the statistical and qualitative data to explore the speech to writing interface, and to illustrate how one key aspect in linguistic development is learning how to shape sentences and make linguistic choices which do not draw directly on oral patterns or influences. Instead, the linguistic constructions of more assured writers demonstrate greater understanding of the needs of the reader and the conventions of the text genre, and greater confidence manipulating text to create a 'writerly' style, rather than an oral style.

Lexical choices

At the most elementary level of text, the word, the vocabulary choices that writers make reveal differing stages of development. The statistical analysis of word length, taken as a proxy for sophistication in lexical choice, indicated that word length increased with writing quality, as the table below illustrates:

[Insert Table 4 here]

The qualitative data illustrates much more clearly, however, how word length relates to text quality. In general, it reflects vocabulary choices which are drawn from a broader repertoire, showing writers using synonyms of vocabulary much more commonly used in speech. The table below illustrates this: the words taken from the lower quality writing are more typical of spoken vocabulary, whilst the parallel synonyms found in higher quality writing reflect a more literary lexical capacity.

[Insert Table 5 here]

The choice of verbs also demonstrated greater lexical sophistication in higher quality writing. In the argument writing samples, the weaker writing made greater use of '*I think*' to express a personal opinion, whereas the more assured writing offered a range of verbs to fulfil the same function: for example, *I understand, I believe, I would suggest.* Sometimes, this involved not just substitution of a different verb, but a reconstruction of a sentence for rhetorical effect, as in the piece where the writer asserts his viewpoint by informing his reader that '*I tell you now that it would'.* Another pattern of usage was the greater prevalence of phrasal verbs in weaker writing, again a reflection of typical oral usages. Examples of these included: *stitch them up*; *nodding off*; *give up*; and *hang around.*

Sentence expansion

The theoretical accounts of differences between speech and writing, discussed earlier, note the greater lexical density of writing, established through presence of more participial non-finite clauses, more expansion through constructions such as noun phrases adverbials, and more attributive adjectives.   Our study suggests that this is a difference which needs to be acquired and which is one of the markers of linguistic development. The frequency of finite verb use declined with writing quality: in other words, the most accomplished writing expanded and elaborated within the sentence, through constructions other than the finite verb. One element of this expansion is the use of the non-finite present participle clause, which increased with writing accomplishment. Indeed, 42% of all writing judged to be weak writing made no use at all of present participle clauses.   These data are illustrated below.

[Insert Table 6 here]

These different patterns are exemplified clearly in the extracts below. The first extract, with the finite verbs underlined, expands noun phrases to provide explanatory detail for the reader. In part, this is achieved through the use of adjectives (a '*strained* expression*'*; 'children, *pale-faced* and *yawning*') but all through a prepositional phrase to expand the head n ('a man *in a brown suede coat'*).   The writer also uses adverbs to provide additional detail ('watching a sweet machine *nearby, longingly, expectantly'*). This is essentially a descriptive section in a narrative whereas the second piece is concerned with narrative action. Here the use of present participle clauses (emboldened), intensifies the action, creating a sense not only of what is happening but also of how it feels: the narrative participants are presented as victims of the weather, needing to find shelter and avoid being pummelled by the rain.   In both pieces, the lexical density is increased through these constructions, and the reader is offered a more detailed and nuanced narration of events.

   A child <u>shouted</u> for food. His mother's strained expression <u>was</u> similar to that of a waitress, who

   <u>was</u> serving a man in a brown suede coat. His face <u>was</u> hidden. Two children, pale-faced and

   yawning, <u>were</u> watching a sweet machine nearby, longingly, expectantly.

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*My mum <u>ran</u> to open the car and <u>climbed</u> in, all the time **sheltering** herself with her arm from the rain that <u>was</u> lashing down upon her. I <u>closed</u> the front door to our house and <u>put</u> my hood up. I too <u>ran</u> to the car, **attempting** to keep my hood from **blowing** down and **subjecting** me to the rain **pummelling** down from the sky.*

In contrast, the third extract below is less assured in its narration. There are 9 finite verbs in this extract, signalling how little detail or expansion is provided in the rest of the sentence. There are no present participle clauses, only one adjective (*end-of-play*) and one adverb (*then*); but there are a high number of non-lexical words (*and; when; the; a; to; of* etc). Furthermore, the construction '*It's when*…' is more typical of speech than writing.

It<u>'s</u> when one person <u>catches</u> people and <u>asks</u> the person who <u>has</u> been caught weather they <u>want</u> a kiss, cuddle or a torcher. The end-of-play whistle <u>was</u> then blown and Hannah and her friends <u>had</u> to go to their classes; this <u>was</u> the part of school, which <u>she</u> didn't like.

The study also investigated the usage of past participle non-finite clauses and infinitive clauses, but found no statistically significant differences within the sample. Further research might usefully explore this in more detail to establish whether older or adult writers use more of these constructions, or indeed whether the predominant difference between speech and writing is, in fact, the present participle clause.

Co-ordination

A further distinction between speech and writing noted in the theoretical accounts, described earlier, was the greater use of co-ordination in speech. Again, our study indicates that the trajectory of linguistic development mirrors this speech-writing distinction – the better the writing, the less reliant it was on co-ordination, as the table below shows.

[Insert Table 7 here]

The extract below illustrates this tendency: the narrative action is chained through a series of clauses joined by '*and*' or '*so*', which echoes the prosodic features of an oral recount, dominated by the chronology of the event and the succession of events.

We were playing tracker <u>and</u> we decided to go on the field next to the woods <u>so</u> we ducked under the sharp barbed wire fence <u>and</u> went to the field. There was a herd of cows <u>so</u> we chased them off the field by poking their buttocks with sticks. They ran away past a house on the field. Moments later a farmer came out of the little house <u>and</u> chased after us <u>so</u> we leged it into the woods <u>and</u> hid for a few minutes <u>and</u> then went back on the field <u>and</u> layed there for 5 mins.

It is worth noting that although this piece of writing is so heavily co-ordinated, there are other signs of developing maturity – there is a present participle clause (*poking their buttocks with sticks*) which successfully elaborates on the act of chasing away the cows, and the use of '*Moments later'* to start a sentence is a 'writerly' choice, in place of the more oral '*Then*'.

Subordination and embeddedness

If co-ordination is a typical characteristic of speech, then subordination and embedded clauses are typical of writing. An increase in the use of subordination was identified as a feature of linguistic development in primary aged writers by Perera (1984) and Harpin (1986) and Allison et al (2002). One might reasonably expect, therefore, that in older writers in the secondary phase, this pattern would be replicated. However, our study shows clearly that this is not the case – in fact, subordination is used with higher frequency in less accomplished writing (see table below).

[Insert Table 8 here]

The reason for this, however, does relate strongly to linguistic development and to the relationship between speech and writing. The higher proportion of subordination in weaker writing can be accounted for in two ways. Firstly, weaker writing presented many examples of long sentences which, although they contained subordination, were poorly managed. Secondly, higher quality writing made greater use of the

simple sentence, with no subordination or co-ordination. One element of the use of the simple sentence is to alter the rhythm of a text and to create emphasis.   These patterns are exemplified in the three extracts below. In the first, from an able writer, a long sentence with subordination is followed by three simple sentences which offer further elaboration on the scene and a final emphatic statement of the narrator's perspective. The second extract, also from an able writer, illustrates how subordination is effectively managed in a long sentence, including the use of an embedded clause. The final extract, however, from a weaker writer has four sentences of similar length, no simple sentences and both co-ordinated and subordinated clauses, and other than simple communication of narrative events, it does not linguistically shape the sentences for any effect of meaning or emphasis.

I threaded my way through milling tourists quietly absorbing their surroundings of sculpted marble columns and paintings of cherubs, nativity scenes and brilliant patterns that covered the ceiling. The only noise was the buzz of quiet talk and the shuffle of feet. Coloured light shone from the stained glass windows. I was bored.

We feel, as I am sure many other students across the country will agree, that we are much more refreshed and ready to work on a Monday morning, than we are at the end of the week, when we are restless and have no energy left.

Later i had an appointment at the hospital and had the stiches taken out. I was unlucky enough to have another accident where I also hit my head. This happened at school when playing around with some of my mates in the Sand pit. I had made up a game where we had to jump onto a bench and then into the Sandpit

The connection between linguistic development and an increasing ability to discriminate between spoken and written forms may also be evident in the usage pattern of subordinators.   There was a consistent trend in both age groups studied for some subordinators to be more prevalent in weaker writing than in higher quality writing: *where, when, because*, and *if* were more frequent in the least able writing, whereas *whilst, whether,* and *once* were more likely to occur in accomplished writing.   Arguably, this reflects speech-writing differences, with weaker writers making greater use of the subordinators most common in

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speech. This hypothesis is strengthened by the pattern of usage of 'like' as a subordinator, which was not evident at all in good writing, but a distinct pattern in weaker writing. Most linguists would regard this as a non-standard usage, substituting for the standard for '*as though'* or '*just as'* and it is a reflection of the oral use of 'like' in informal speech. Typical examples of this usage of 'like' included:

- ❑ *I could smell the sweet smell of lavender, like I was standing in a herb garden.*
- ❑ *I opened it with a defening creek, closing it behind me with a ear splitting shatter which echoed through the church like someone was screaming.*
- ❑ *It was and felt as smooth as a slypery snake which is what I liked the most about it, so like any other person would do I figured that I should go and ride it.*
- ❑ *It seemed like he had stopped trying to get him and gone away*
- ❑ *It seemed like we were travelling forever.*

Thematic variation

One aspect of developing what Flower (xxx) called reader-based prose is being able to alter the emphasis in sentences to guide the reader's interpretation of them.   In spoken dialogue, the speaker influences the listener's reception through features such as intonation, rhythm, pitch and stress and through non-verbal communicative accompaniments, but in writing these influences have to be achieved in different ways. Similarly, the meaning-making colour provided in speech by paralinguistic features means that *'lack of variety in sentence patterns is not necessarily evident in oral language'* (Perera 1984:187). By contrast, lack of variety of sentence structure in writing can lead to a monotonous flat rhythm and limited positioning of the reader to pick up meaning-making cues. Therefore, thematic variation, altering what comes at the start of a sentence, is particularly significant in marking linguistic development from speech to written forms: '*what the writer puts first will influence the interpretation of everything else that follows'* (Brown and Yule 1983: 133). In English, the subject is dominant in first position in spoken utterances, principally because the listener needs to hear early on what the topic of a sentence is; in writing, reversals or disruptions of this pattern are less problematic because readers tend to read small blocks of text rather than single words and because sentences can be re-read. Linguistic possibilities for creating thematic variation include the use of adverbs or adverbials, non-finite clauses, subject-verb inversions and fronting.

The data indicate clearly that weaker writing is more dependent on the oral pattern of subject dominance in the thematic position:

[Insert Table 9 here]

However, the data also reveals that at this stage of writing development, it appears to be using adverbials to alter subject dominance which is learned or acquired first. The table below shows that the best writing in year 8 exhibited greater use of adverbials than other writing, but in year 10 this pattern has altered to average writing. In year 10, good writing also uses non-finite clauses ($p = 0.040*$) and subject-verb inversions (($p = 0.021*$) to achieve thematic variation, and the very few examples of fronting in the sample were more likely to be in good writing. Thus, higher quality writing in our study demonstrated not only greater thematic variation, but also greater variety in the linguistic constructions used to create variation.

[Insert Table 10 here]

The examples below illustrate the different types of thematic variation and represent writers who are developing assurance in managing the reader-writer relationship and understand the needs of the reader in contrast to the needs of a listener. Reading them aloud, it is very easy to hear how unlike natural speech they are, and how they have been transformed into written sentences with lexical and linguistic characteristics of 'writerly' prose.

Adverbials

After a tiring walk, we reached our destination: street lamps flickered cautiously then lit up, glaring hostilely in our faces.

In 3rd World countries that have not developed economically, millions of people are experiencing the hardship of the lack of food, clean water, and medication that we, in the Western World, expect and take for granted.

Confidently crossing the playground in the morning, with my Dad nobly carrying my suitcase, I felt highly important to be embarking on such an adventure.

Non-finite clauses

Unhurt by the rubber I turned straight back, found the nearest thing which happened to be a book and tossed it back.

Draped in my England flag, wearing the colours of St. George, I was so nervous.

Fronting

However, the parents often feel that their children are not yet ready for this extra burden. For all, finding this balance is essential. For most, finding this balance is tricky. But, for some, finding this balance is nearly impossible.

To Natalie, life meant working in a hairdressers and staying asleep to noon. The Navy just wasn't her style.

Subject-verb Inversions

There, five feet above me was my bed.

Ahead were the dim lights of the manor flickering in the wind.

Theoretical implications

Our study has, we believe, demonstrated that linguistic perspectives provide a valuable complement to more common cognitive and socio-cultural investigations of writing development and can illustrate in very explicit ways differing trajectories of development. It is important, however, to see these as patterns or tendencies rather than as absolute staging-posts in development and to align knowledge of linguistic development with cognitive and socio-cultural insights into writing processes. For example, the ability to advance-plan a sentence and manipulate linguistic possibilities within the constaints of the overall textual goal requires a high level of executive control. Both Kuhn (2006) and McCutcheon (1996) have argued that growth in executive control is a feature of adolescence. Likewise, the linguistic choices made need to function within a secure understanding of both readers and texts as culturally-situated. Research in writing, therefore, needs to be more cognisant of these multiple perspectives: shaping and creating text to

meet a reader's needs demands high-level cognitive resources, operating within socio-cultural expectations, and drawing on appropriately-developed linguistic repertoires.

It is also clear that linguistic theory has addressed early writing development more satisfactorily than later writing development and our own research has only begun to mine this rich seam. From a text-oriented perspective, further research might look more specifically at later development of the noun phrase, and investigate in more detail the different types of subordination used, and the range of adverbials used, for example. From a writer-oriented perspective, this study naturally raises questions about metalinguistic understanding and the extent to which writers' choices are made explicitly or tacitly. It is also evident that cognitive research into the translation from thought to text needs to address more explicitly the fact that good writing requires not only production of text, but also shaping of text.

Pedagogical implications

Although it is well-understood that learning to be a writer draws on 'talk knowledge', this study makes it clear that one key element in learning to write with accomplishment is, in part at least, learning how **not** to write the way you talk, or rather acquiring adeptness in transforming oral structures into written structures. This demands a degree of deliberateness in the process of writing which is more cognitively costly than simply writing down the words that come into your head, a process which merely '*preserves the straight-ahead form of oral language production'* (Bereiter and Scardamalia 1987:9). It also requires the acquisition of a linguistic repertoire which is specific to writing and may have no parallels in talk. This implies that pedagogical attention to grammar needs re-orientation from assumptions about error and accuracy in writing to a stronger focus on rhetorical choices and rhetorical effects and means making more connections for developing writers between linguistic choices and meaning-making effects. In England, as a consequence of a renewed emphasis on grammar teaching, underpinned by policy frameworks, there has been a tendency to teach 'sentence variety' without any assured consideration of the effects of sentence variety or how that variety might be achieved. It appears that this is not an issue restricted to England: Paraskevas (2006) reports American students bemoaning teachers who encourage them to '*vary the way the begin their sentences without guidelines as to how this can be done'* (Paraskevas 2006:68). Instead, Paraskevas advocates developing understanding about sentences which will give writers '*the power to choose how they want to convey their meaning, how best to say what they*

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want to say' (Paraskevas 2006:68).   Our study would suggest that one aspect of understanding which should be at the forefront of instructional attention is the difference between spoken utterances and written sentences and the particular linguistic constructions which tend to characterise this distinction.

The use of talk as an instructional support alongside writing also needs to be more carefully addressed. What is the talk for? Talk is a valuable tool in the writing classroom for generating and evolving ideas for writing and for reflecting on and sharing responses to writing through paired work or peer assessment. Our observations of the teaching of writing in our study suggest that these are the most prevalent instructional strategies for talk in the context of writing. Some teachers do, however, use talk for 'oral rehearsal', a term which has gained currency in literacy classrooms in England due to its place in policy documents. There is no well-theorised conceptualisation of oral rehearsal in these policy documents and indeed its precise meaning shifts from document to document. However, one view of oral rehearsal represented in the policies is that oral rehearsal gives writers an opportunity to rehearse their written sentence aloud before writing it down so they can hear what it sounds like. This has the benefit of reducing cognitive load as writers are not simultaneously generating ideas and translating into text. More significantly, though, it might allow writers to manipulate a sentence and review effects before committing it to paper or screen and potentially would allow a teacher to draw attention to some of the differences between the spoken utterance and the orally rehearsed written sentence.

Finally, if, as this study argues, one key marker of writing development in the secondary phase is the acquisition of a linguistic repertoire which is not an oral repertoire, it is important for teaching strategies to acknowledge the differential position of speakers in the classroom in accessing this repertoire. Perera noted that '*although all children have to alter their language significantly as they move from casual speech to formal writing, those whose oral language differs markedly from Standard English will have a particularly demanding adjustment to make*' (Perera 1984:213). Students for whom English is not their first language and who are orally fluent may have writing needs masked by this oral fluency.   Likewise, in England at least, socio-economic differences in speech patterns also have an effect. The talk patterns of the more privileged middle-classes are closer to the patterns of writing with the result that '*the difference between the syntax of speech and that of writing is far less for such groups than it is for groups whose dialects are little if at all influenced by the structure of writing*' (Kress 1994: 3).

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TABLES:

Four stages to the translating process:	Three operations ensure proper translating:
❑ elaboration [retrieving the idea from the plan]; ❑ linearization [first transformation of the idea into a syntactico-semantic structure, a pre-verbal message]; ❑ formulation [shaping the pre-verbal message into words]; ❑ execution [planning and graphic execution of the linguistic product].	(a) the selection in the mental lexicon of appropriate words to formulate ideas; (b) the generation of sentences; (c) the elaboration of the textual coherence and cohesion using appropriate linguistic devices.
Alamargot and Chanquoy 2001: 65	Negro and Chanquoy 2005: 106

Table 1: Theoretical overviews of the translating process

Spoken version	Written version
Um…well this happened when I was little – well…er quite young…eight or nine, I think… and I had just got this new bike. All of us, I mean all the kids at school…had bikes 'cos, um it was quiet where we lived – it was a small town…not much cars, er…traffic. Lots of kids rode bikes to school. Anyway this day I was just leaving school – I was a bit late cos I had to see this teacher – she was always keeping me in – and the playground was just about empty only these boys were near the bike shed.	At last my new bike had arrived, and I was riding to school like all my friends. All day in lessons I'd thought about the bike and imagined myself riding out of the school gates with them, waving to those poor unfortunates who had to walk home. The day seemed endless, and then just as the last bell went Mrs Fitzgerald said, "Rosa, I'd like to see you before you go." I was furious but there was nothing I could do: I had to wait behind.

Table 2: Contrasting spoken and written versions of a narrative event

		Good		Average		Weak		Total Y8	Total Y10	Total
		Y8	Y10	Y8	Y10	Y8	Y10			
Narrative	Boys	30	30	30	30	30	30	90	90	180
	Girls	30	30	30	30	30	30	90	90	180
Total Narrative		120		120		120		180	180	360
Argument	Boys	30	30	30	30	28	30	88	90	178
	Girls	30	30	30	30	30	30	90	90	180
Total Argument		120		120		118		178	180	358
Total Boys		120		120		118		180	180	358
Total Girls		120		120		120		180	180	360
Total		240		240		238		358	360	**718**

Table 3: Overview of the Project Sample

Number of characters per word	Mean	Statistical Significance
Good	4.3	
Average	4.1	0.00*
Weak	4.0	

Table 4: Differences in word length by writing quality

Weak	Good
Lots/a lot	*majority*
stuff	*substances*
place	*environment*
give up	*sacrifice*
stories	*narratives*
against it	*opposed*
saying	*proposing*
nose	*nostrils*
made-up	*imaginary*
bad	*negative*

Table 5: Contrasts in vocabulary choice by writing quality

Per 100 words		Mean	Statistical significance
Number of finite verbs	good	12.15	0.000*
	average	12.90	
	weak	14.18	
Number of non-finite present participle clauses	good	1.7	0.001*
	average	1.4	
	weak	1.1	

Table 6: Differences in finite verb frequency by writing quality

Per 100 words		Mean	Statistical significance
Number of co-ordinated clauses	good	2.25	0.000*
	average	2.71	
	weak	3.18	

Table 7: Differences in co-ordinated clause frequency by writing quality

Per 100 words		Mean	Statistical significance
Number of finite subordinate clauses	good	3.99	
	average	4.25	0.022*
	weak	4.53	

Table 8: Differences in frequency of finite subordination by writing quality

Per 100 words		Mean	Statistical significance
Number of sentences opening with subject	good	4.17	0.010*
	average	4.36	
	weak	4.74	

Table 9: Differences in subject openings by writing quality

Per 100 words		Mean	Statistical significance
Adverbial sentence opening: Year 8	good	1.25	0.022*
	average	1.05	
	weak	0.86	
Adverbial sentence opening: Year 10	good	0.95	0.434
	average	1.22	
	weak	0.97	
Adverbial sentence opening: whole sample	good	1.12	0.085
	average	1.17	
	weak	0.92	

Table 10: Differences in adverbial openings by year group and writing quality