Grammar for Writing

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1 Grammar for writing

The title of this paper comes from one of the most successful publications of the National Literacy Strategy, a 200-page book stuffed with good ideas which is now in every primary school in England (Anon 2000). The title presents grammar as a tool for a job, like the "thing for taking stones out of horses shoes" that some pocket-knives used to include. Notice the grammar: Noun + *for* + Gerund, where the noun denotes a tool and the gerund says what it is to be used for. Equally, however, you could read it another way: like "a book for dipping into on the train", where the gerund says what is to be done to it. In this case, grammar is what you write, not what you use for writing – another true and helpful way to think about the role of grammar in writing. And notice how nicely the title blends the two together in a little bit of applied grammar.

This paper will consider grammar in both these roles: as a tool or resource that a writer uses, and also as part of the outcome of the writing process. In the terminology of theoretical linguistics, I shall be considering grammar both as "competence" (knowledge) and as "performance" (behaviour, or the product of the behaviour in texts). The question I shall try to answer is (1).

(1)   How is the development of grammatical performance in writing related to the development of grammatical competence?

In other words, what does a school-child need to know in order to use grammar well in writing? Another important distinction that theoretical linguists like to make separates implicit knowledge, which is what we mean by competence, from explicit, or "metalinguistic", knowledge. The evidence that I shall present will support the conclusion in (2).

(2)   Mature performance in writing requires a grammatical competence which is large and (at least to some extent) explicit.

In short, I believe the available evidence supports the following conclusion for education:

(3)   Schools should help children:
         a. to increase the size of their grammatical competence.
         b. to become more conscious of their competence.

If this conclusion is correct it leaves two large questions on the educational agenda:

(4)   How should schools teach grammar?
(5)   What grammar should schools teach?

For someone like me who has been thinking about grammar and education, on and off, for most of his working life, it is refreshing to be able to focus on these questions, ignoring all the old issues about prescriptivism and Standard English. I like to boast to colleagues in other countries that that debate is now over in the UK, at least in the sense that those who have responsibility for running the nation's schools no longer need to be persuaded that the various local varieties of non-standard English are structured systems with their own logic rather than ignorant failed attempts at standard English. Equally I think everyone accepts the need for schools to teach

standard English both in speaking and in writing, with the major proviso that it is taught as a complement to the local non-standard rather than as a replacement of it. I shall take all of these assumptions for granted here, so the question in (6) will not be on my agenda.

(6)   How can schools eradicate non-standard grammatical features?

This outcome is something that we, as a nation, should be proud of.

Nor shall I try to say anything constructive about how grammar should be taught, though I believe this is a really important issue. The grammar of a language is an extremely complex system, comparable in complexity to, say, the structure of complex molecules or the structure of the brain. It is not easy to dip into "as needed". Many commentators (going back at least to the Bullock Report) have accepted that the principle of teaching grammar only when needed is tantamount to not teaching it at all. For example, the notion of tense is too complex to teach in the few minutes (or seconds) available when a problem of tenses arises. This means that the teaching must be to some extent systematic, but not necessarily that one lesson each week is dedicated to grammar. On the contrary, one of the most important pillars of the Literacy Strategy, which I accept, is that grammar should be closely integrated with writing activities. The question, therefore, is how to make grammar teaching both systematic and integrated. I believe this can be done, but it is not the topic of the present paper.

The rest of the paper will be divided into three sections. The first two will focus on grammatical developments in children's written performance, and the last will discuss their competence and how to help it to grow.

2   Quantitative growth

In studying children's written output the obvious way to measure growth is by counting aspects of grammatical structure that are fairly easy to identify and also rather general. We already have a great deal of factual information from earlier studies and a convenient summary (Perera 1984), but most of these studies date from the 1960s and 1970s and offer tantalising hints rather than a clear picture of overall trends. Fortunately we now have a mass of new data which I shall summarise in this section, adding a few extra data-points of my own. The new data arise from a series of projects funded by QCA, only one of which has been published: the study of KS4 (GCSE) scripts carried out by Debbie Myhill (Anon 1999). The remaining data were kindly provided by Andrew Watts, of the University of Cambridge Local Examination Syndicate. These data have the great advantage of a uniform grammatical analysis which was applied to written work across the age and ability range over several years: several hundred pre-marked scripts each year representing relevant grades at each of the key stages. (The KS4 data were collected in 1998 while the UCLES data cover four years from 1999 to 2002.)

The analyses all covered a wide range of formal patterns from spelling to paragraphing, but I shall concentrate on matters of sentence structure. Each analysis reports the number of times the following grammatical patterns occurred per 100 words:

- sentences
- finite verbs
- coordinated clauses
- subordinated clauses
- abstract nouns

- concrete nouns
- adjectives
- adverbs

This list of grammatical features is very short and somewhat arbitrary, but it is a start and certainly reveals some interesting patterns. The scripts are classified according to:
- the author's age (KS1, 2, 3 or 4)
- the author's sex
- the task (narrative or non-narrative)
- the grade or level assigned to the script

I shall call these contrasts '**script-types'**. My statistical analysis is very simple, and does not include any tests for significance. However the trends that emerge are probably sufficiently robust for these not to be needed.

The figures allow a number of rather simple generalisations about the main influences on the selected grammatical patterns and their respective effects. As a measure of the effect of a script-type on grammatical structure I have taken the difference between the extreme figures which it contrasts. For example, the average number of sentences, when classified by age, ranges from 5.9 (at KS4) to 8.6 (at KS1), so the effect of age on sentence-number is 8.6 – 5.9 = 2.7. In contrast, the effect of sex on sentence-number at KS1 is just 0.4 (the difference between 8.8 for girls and 8.4 for boys). Unfortunately the figures did not allow me to separate the effects of sex, task and grade from age, so I had to calculate a separate effect for each age group. However it was possible to sum all the effects across all grammatical patterns for each text-type at each age, and then to sum the effects across ages, which gives a measure of the relative effect of each text-type. The figures are shown in Table 1 (where the bracketed figure ignores the effect of the outlier in the grade column).

Table 1. **The effects of sex, genre and grade on grammar at four ages and overall.**

Age	effect of sex	effect of genre	effect of grade
KS1	2.7	9.8	25.3
KS2	1.5	11.7	9.2
KS3	1.6	8.9	8.0
KS4	2.1	5.6	13.4
mean	2.0	9.0	14.0 (10.2)

Here are the main conclusions regarding the effects of the various text-types:
- Sex has very little influence at any age compared with the other influences. It is possible that even this small effect can be explained entirely in terms of grade, on the assumption that boys were overrepresented in the lower grades; but I cannot check whether this was in fact the case.
- Grade has an enormous effect at KS1, out of proportion to all the other effects in Table 1, and its next biggest effect is at the other end of the age range, KS4. The KS4 grades might be expected to have different effects from those at other ages because they are GCSE grades (A, C, F) rather than National Curriculum levels, but the figure at KS1 is more surprising because it shows the same span of three levels (levels 1–3) as at KS2 (levels 3-5). Indeed, the smallest effect of grade is at KS3 where the scripts analysed covered four levels (4-7). Of course, the causal relation between grade and grammar is the reverse of the other script-types: the grammar (in part) causes the grade, not

the other way round. This being so, it is possible that examiners pay more attention to grammar at KS1 than at the other ages.

- Genre is almost as important as grade, but in this case the grammar must of course be the effect of the text type, not its cause. As I shall explain below, it is easy to classify each of the grammatical alternatives as relatively mature or immature, and on every measure but one, non-narrative writing is more mature than narrative. (The exception is the number of adverbs, which is consistently higher in narrative writing; but in general, the more adverbs a text contains, the more mature it is.) This tendency is already well known, but it is reassuring to find such solid statistical support. (The same pattern emerges in an Australian thesis which I shall discuss below: Rutledge 2000.)

These results all strike me as having potentially important implications for the teaching and examining of writing, but for lack of space I shall not try develop them here.

The other side of the equation linking text types to grammar is the list of specific grammatical patterns which were counted, such as finite verbs and subordinate clauses. Once again the data do allow some simple generalisations, not least the distinction just mentioned between "mature" and "immature" alternatives. For example, a relatively high number of finite verbs is immature, whereas a high number of adjectives is mature. Maturity can be measured in two ways:

- in relation to age, with KS4 (by definition) more mature than KS1.
- in relation to grade, with an A grade at GCSE counting as more mature than level 2b. (Level 1 is best excluded because it produces a number of highly idiosyncratic trends that aren't continued in higher levels, such as a very small number of sentences. In the data, level 2 is divided into 2a, 2b and 2c, so 2b is taken as the central case.)

Fortunately both ways of measuring maturity lead to virtually the same conclusion: all the patterns studied increase with maturity with the exception of the first three:

- sentences
- finite verbs
- coordination

The first two exceptions are as expected since they indicate that both sentences and finite clauses tend to get longer (on average), though finite verbs are a little more complex since for some reason their number peaks at KS2. Coordination of clauses is more surprising, since it does not (as predicted) decrease with age – it is very stable (3.1 or 3.2 per 100 words) with a slight trough (2.9) at KS2. However within each age group, it clearly decreases as grade increases (with the exception of KS1, where level 1 shows less coordination than level 2b). These rather odd figures are shown in Table 2.

Table 2: Coordinated clauses per 100 words by age and grade

KS1		**KS2**		**KS3**		**KS4**	
grade	coord/100	grade	coord/100	grade	coord/100	grade	coord/100
1	2.6	3	3.4	4	3.5	F	4.0
2b	3.6	4	2.7	5	3.1	C	3.1
3	3.2	5	2.6	6	2.8	A	2.5
				7	2.6		

All the remaining grammatical patterns that were selected for study turn out to be positively related to both age and grade, so they are good measures of maturity. There are just three complications to this simple pattern:

- The number of abstract nouns rises surprisingly little and even goes down slightly between KS3 and KS4 (from 1.3 to 1.0, compared with 0.7 and 0.9 at KS1 and KS2).
- The number of adverbs increases with grade at KS1-3, but at KS4 this trend reverses, with only 4.4 adverbs at grade A compared with 5.0 at C and 6.1 at F.
- The number of subordinate clauses also shows a dip at KS4 in the top grade: 4.1, compared with 4.7 at grade C and 4.3 at grade F. Maybe high-flying writers at this age are learning to replace subordinate clauses by more sophisticated patterns such as nominalisations.

The trends emerge clearly from Figure 1 (where the figures for concrete nouns and adjectives have been reduced by 10 and 3 respectively to improve presentation).
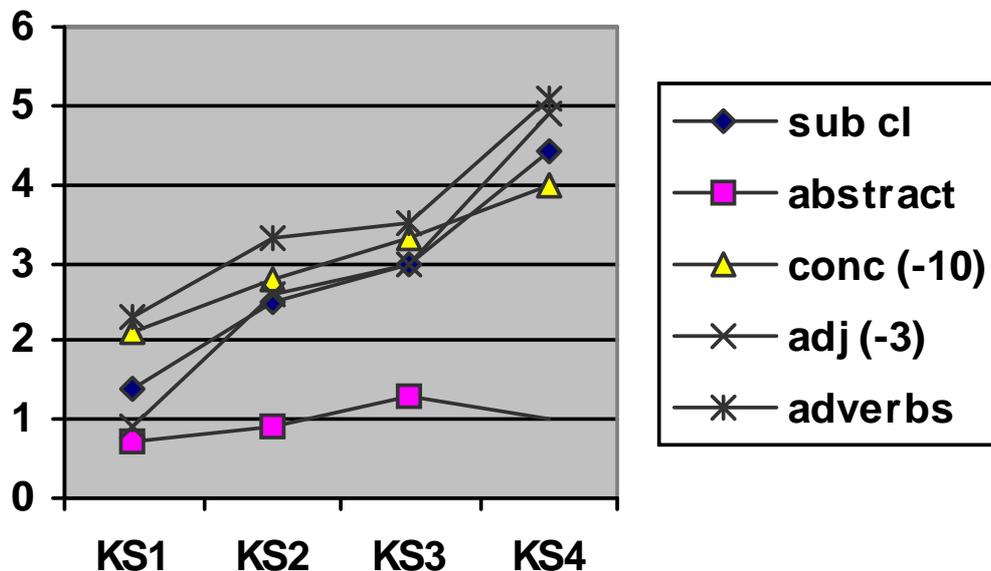
Figure 1: five grammatical patterns x age

These trends contain some surprises. The increases in subordinate clauses and abstract nouns are as expected, but not so:

- the steady increase in the number of adjectives and adverbs into KS4,
- the increase in concrete nouns, which dwarfs the smaller increase in abstract nouns mentioned earlier and means an overall increase in the use of nouns.

However both of these increases fit into a wider pattern which emerges from other studies which I reported some years ago (Hudson 1994).

The increase in nouns brings children's writing nearer to the levels of noun use found in adult writing, where about 28% of words are nouns (common or proper), with a big difference between "informational" writing (30%) and "imaginative" writing (22%). By KS4, children's writing has reached 15% nouns (concrete and

abstract), from a low start of 12.8% at KS1. Interestingly, young children (aged 6-12) use only 13% nouns in free play, but rise to 18% in interviews; but these percentages do not change with age from 6 to 12. (These figures were derived from an important study of the speech and writing of children in South Wales (Fawcett and Perkins 1980) that I shall mention again later.)

The increase in adjectives and adverbs has a similar effect, since the combined numbers in KS4 writing, at13% of the total words, are the same as the average for adult writing. However it is interesting to see that children's free speech shows an even higher number of adjectives and adverbs, with a very steady rise from 14% at age six to 15% at eight, 16% at ten and 17% at 12. This is a clear example of children's writing lagging behind their speech – but it is an isolated one as far as the available evidence is concerned.

The results that I have reported suggest a number of very general trends which show that mature writers use more nouns, adjectives, adverbs and subordinate clauses, and use longer sentences and clauses. However it is important to stress that this may only be the tip of a very large iceberg of statistical trends. For example, the project did not count non-finite verbs, so we don't know anything about trends in the overall use of verbs. If these results are important, we clearly need more research to fill the gaps.

The question is, of course, how important and useful these results are. A fairly reasonable response to statistics such as these is: "So what?" Maybe the trends are real, but what can teachers do about them? Nobody (least of all me) would dream of suggesting that children should be urged to squeeze in one or two more nouns per 100 words. It seems more likely that these statistical trends are a by-product of something more important and more teachable.

3   Qualitative growth

My suggestion is that the essential growth is in the **range** of grammatical patterns used. I make no claims to originality – I think I first heard this suggestion from Michael Halliday in the 1960s, and even then it seemed rather obvious. What common sense predicts is patterns in use at KS4 which do not occur at all at KS1, alongside patterns that were already established at KS1. In other words:

(7)   The range of grammatical patterns used increases with age and grade.

The trouble with the statistics that I reviewed in section 2 is that they throw little if any light on the range of patterns. In this section I shall try to document this growth, and I believe, although I cannot demonstrate this, that qualitative growth in the range of alternatives may ultimately explain the quantitative changes.

By far the most accessible source of evidence for qualitative growth is again by Katharine Perera, but this time it is an article first published in 1986 and reprinted in the LINC Reader (Perera 1990). In it she analyses some of the material collected in the Welsh project that I mentioned earlier (Fawcett and Perkins 1980). The importance of this project lies in the possibility of a direct comparison between speech and writing by the same person, because the children (aged from 6 to 12) were recorded in play and in an interview, and then the same children also wrote about their play session. She identifies two kinds of "construction" (i.e. grammatical pattern):

- seven "oral" constructions found only in speech, for example:
  - *well*, as in: *Well, I decided to put the garage on..*
  - *or something*, as in: *It might be a children's home or something.*
  - *this,* as in: *They had to run under this dark tunnel*.
- a much larger number of "literary" constructions found only in writing, for example:

- *etc*, as in: *We used blocks to make a fridge, beds, etc.*
- *for instance*, as in: *We kept adding different ideas, for instance, kitchen windows, gates, trees, doors.*
- Non-finite adverbial clauses, as in: *After constructing the kitchen I started on the car.*

Some of the literary constructions are virtually absent from speech, while others are much rarer in speech than in writing; for example, Perera reports that non-finite adverbial clauses are twice as common in writing than in the speech of the same children. The same applies to non-finite relative clauses as in *I was one of the children chosen to take part in the project* (as opposed to its finite equivalent *children who were chosen*).

According to Perera, the literary constructions are functionally dedicated to achieve the goals of writing, so it is not simply a question of learning a new set of conventions for achieving goals familiar from speaking (as with formal *attempt* contrasting with casual *try*). One of these goals is to make information flow smoothly without the help of intonation, and the solution in writing is to put old information at the start of the clause and new information at the end. Here is an example (quoted by Perera from a 12-year old) which illustrates both patterns, followed by its (made-up) spoken equivalent:

(8)   By the side of it we put a bus-stop where stood two children.
(9)   We put a BUS-stop by the side of it where two CHILDren stood.

(The capitalised syllables show the focus of intonation.) The written sentence is rather awkward, but shows how this child is exploring a new construction. The writer has "front-shifted" *by the side of it* so that the pronoun *it* can be as close as possible to what it refers to; this is quite common in speech, and works well here. What is not found in speech is the pattern in the subordinate clause, *where stood two children*, in which the subject (*two children*) has been delayed to allow it prominence. The two patterns are actually very familiar in examples like *Here comes your bus*, which are ten a penny in speech; notice the front-shifted *here* and the delayed *your bus*. But this spoken pattern is limited to two adverbs (*here*, *there*) and three verbs (*be, come, go*). It is only in literary grammar that it is used more freely with other adverbs and verbs.

Another relevant study is a recent Australian PhD thesis which analysed the syntactic features of graded narrative and expository writing by year-12 pupils (Rutledge 2000). This too found that the best texts contained more syntactic patterns peculiar to writing than the worst texts.

What I am suggesting, then, is that grammatical development in writing has two components:
- improved use of **existing** constructions as more brain-space becomes available for planning and executing richer combinations of familiar constructions; for example, a child who can write *old book*, *interesting book* and *book about birds* can graduate to *an interesting old book about birds*.
- use of **new** constructions, such as the subject-delay in *where stood two children*.

These components are both important, but the first may be a matter of cognitive capacity which will evolve at its own pace. In contrast, the second component is both learnable and teachable.

4   How can grammatical competence grow?

My conclusion, therefore, is that an important part of growth is an expansion of competence – learning new constructions that one didn't know before. It is

uncontroversial that this is what growth means in vocabulary or in second-language learning, but grammatical competence in the mother tongue is often seen as somehow closed and complete by school age so that all that remains to be learned is how to use the system better and (perhaps) how the system works. Unfortunately this view is encouraged by theoretical linguists who argue that the general structure of grammar is innate and its details can be learned in the first few years of life: "The three-year old ... is a grammatical genius – master of most constructions, obeying rules far more often than flouting them, respecting language universals, erring in sensible, adult, ways, and avoiding many kinds of error altogether." (Pinker 1994:276)

Moreover, until quite recently the received opinion, at least in the English-speaking world, was that research had shown that teaching grammar was a waste of time. Statements like the following are easy to find in the literature:

- "It seems safe to infer that the study of English grammar had a negligible or even harmful effect upon the correctness of children's writing ...." (Harris 1962)
- "most children cannot learn grammar and ... even to those who can it is of little value." (Thompson 1969)
- "Formal grammar instruction appears to contribute nothing to the development of writing and reading skills." (Elley 1994)
- "The findings from international research clearly indicate that the teaching of grammar (using a range of models) has negligible positive effects on improving secondary pupils' writing." (Wyse 2001)
- "The grammar and mechanics treatments ... have a clear, negative effect that is homogenous across the studies. The result indicates that all treatments against which grammar was tested resulted in greater gains than the grammar treatments." (Hillocks 2003)

This opinion was supposedly supported by a body of solid research, but on inspection the evidence is much less persuasive than is often thought (Tomlinson 1994; Hudson 2001). It certainly demonstrates that grammar can be taught without achieving any positive effects on writing (or even on knowledge of grammar) (Macauley 1947; Cawley 1957; Harris 1962; Braddock, Lloyd-Jones and Schoer 1963; Elley, Barham, Lamb and Wyllie 1975; Elley, Barham, Lamb and Wyllie 1979; Elley 1994). What it does not show is that successful grammar teaching is **impossible**.

I shall now survey some evidence that it is indeed possible.

- Formal grammar, aimed at analysing and even diagramming sentence structure, is certainly not too difficult for average, non-academic school children (Bateman and Zidonis 1966; Mellon 1969; Elley, Barham, Lamb and Wyllie 1979).
- The exercise known as "sentence combining" has been shown to improve writing (Mellon 1969; O'Hare 1973; Hillocks and Mavrognes 1986). This exercise focuses attention on the form of the sentences concerned, and is totally decontextualised; but it is primarily an exercise in writing rather than in grammatical analysis. It is true that it can be done without any discussion of the grammatical patterns, but it would be very odd if such discussion turned out to be harmful.
- A number of research projects with rather limited writing goals have shown that grammar study does in fact help to attain these targets:
  - A project in Finland involving 3,000 primary children showed that those who studied sentence structure in the third grade used

punctuation better three years later than a control group did (though the difference did not emerge immediately) (Laurinen 1955).

- o Roger Bryant and Teresena Nunes and their Oxford colleagues have shown in a series of experiments that children's ability to spell depends on "morphological awareness" and that this awareness can be improved by teaching (Bryant, Devine, Ledward and Nunes 2002; Bryant, Nunes and Bindman 2004; Nunes, Bryant and Bindman 1997a; Nunes, Bryant and Bindman 1997b). Their experiments targeted very specific aspects of spelling such as the possessive apostrophe and irregular past-tense forms.
- o Geoff Williams, a linguist in Australia, gave 10-year olds a single lesson about one aspect of sentence structure (related to the given/new contrast mentioned above), and reported a clear increase in at least the quantity of what they wrote afterwards (Williams 1995). The point of this example is to show how little focus on grammatical structure is needed in order to influence children's writing.
- o Ngoni Chipere, in a recent British experiment, showed that teaching about complex noun phrases improved the reading comprehension of 18-year olds in a FE college (Chipere 2003). This experiment was explicitly designed to exclude the effects of short-term memory differences, so it shows very clearly not only that the effects came from growth in competence, but also that the effects were achieved by explicit teaching.

No doubt there are other projects that I am not aware of.

The characteristic that these successful projects share is that the grammar teaching is focussed on specific writing (or reading) outcomes – what Weaver calls "grammar in context" (Weaver 1996). The grammar can be taught systematically, rather than as the need arises, but it is explicitly tied to a skill. In short, if grammar is a set of tools (what Geoff Barton and I call "the writer's toolkit" in our TES column), then each grammar lesson focuses on just one tool in order to make sure that all the learners understand how it works and what it is good for. As far as I can see, this is the basis for all grammar teaching in the Literacy Strategy.

However there is no doubt that we need a great deal more research before we can confidently say not only that grammar teaching "works" but also why it works. In the words of two great psychologists:

"... I am reasonably sure that unless the student gets a feeling for sentence patterning ... his own sentence patterns will show many obvious defects. Research on the effectiveness of teaching English grammar in improving English composition has been mainly negative, but until this research has been repeated with improved methods of teaching English grammar, I will remain unconvinced that grammar is useless in this respect." (Carroll 1958:324)

And another:

"If a small part of the research effort that has been put into demonstrating the uselessness of formal grammar ... had been distributed over a wider field, more might be known about how skill in the use of English can best be developed." (Thouless 1969:211).

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