

## **“LEARNING’S NOT ENOUGH; THEY NEED TO SEE”: ANALYSING A NUMERACY CONSULTANT’S TEACHING STYLE**

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*This paper explores aspects of one LEA Numeracy Consultant’s style of teaching teachers. By analysing a brief excerpt from a National Numeracy Strategy training session, I suggest that the Consultant used several discursive tools to vary and strengthen the warranting given to her statements concerning teaching and learning.*

The quote in my title paraphrases several comments that Ursula, an LEA Numeracy Consultant, made during and after teaching a group of teachers on a National Numeracy Strategy (NNS) 5 day intensive training course. It seemed to me to epitomise several aspects of Ursula’s approach to and style of teaching teachers. Reflecting back on her teaching, she went further: “They [the Course Notes] are really poor on making connections, all they do is that. ... that’s not enough really.” This suggested that one of her aims was to do more than strictly required in the NNS Course Notes. I was moreover struck by the way she introduced a session on ratio and proportion. Although a relatively brief part of the session, she spent rather longer on this introduction than necessary. Her language seemed to be more inclusive and her descriptions more vivid than suggested in the Course Notes. In this paper I use discourse analysis to explore Ursula’s teaching style in the context of this brief introduction. I should however stress at the outset that my interest here is in Ursula’s style as a teacher educator and the text I analyse has no contributions from the teachers. I do not attempt here to analyse the teachers’ learning or to critique the NNS.

### **DISCOURSE ANALYSIS**

My thinking on discourse analysis draws on two slightly different positions: the discursive psychology of Edwards and Potter (1992); and the social linguistics of Gee (1999). These perspectives share many features, including an understanding of meaning as being situated in social contexts. However, there are also significant differences. Edwards and Potter focus on the actions of different actors and how they construct their identities and the world around them. So, for example,

In saying and writing things, people perform social actions. The specific features of these actions are a product of constructing talk and text out of a range of styles, linguistic resources and rhetorical devices. Part of the interest of analysis is in this constructive process. Since talk and text are action orientated, versions are likely to show variability according to the different interactional contexts they are constructed to serve. (p. 28)

Gee focuses more on the ways in which actors represent and enact ‘Discourses’:

It is sometimes helpful to think ... as if it is not just us humans who are talking and interacting with each other, but rather the Discourses we represent and enact, and for which we are "carriers". (Gee, 1999, p. 18)

Gee makes a distinction between Discourse and discourse. Big 'D' Discourses are "language and 'other stuff' – ways of acting, interacting, feeling, believing, valuing, together with other people and the various sorts of characteristic objects, symbols, tools and technologies" (p. 7) which form the "socially accepted ... ways of using language, of thinking, valuing, acting and interacting in the 'right' places at the 'right' times with the 'right' objects" (p. 17). Small 'd' discourse simply refers to the bits of language which together make up 'Discourses' in practice.

Both perspectives are concerned with 'truth', 'fact' and opinion. Edwards and Potter's focus is on the ways in which individual actors construct, argue and struggle over truth. Discourse for them takes place to counter actual or potential alternative truths. They are concerned with the strength of warranting or backing given to 'facts', claims and statements. On the other hand, Gee's focus is on the ways in which the 'truths' of different 'Discourses' change and develop through their enactment by and struggles amongst actors:

In the end Discourse is a dance that exists in the abstract ... Like a dance the performance here and now is never exactly the same. It all comes down often to what the "masters of the dance" will allow to be recognized or will be forced to recognize as a possible instantiation of the dance. (Gee, 1999, p. 19)

The richness and complexity of social interaction is such that much of people's actions cannot be explicitly intentional. Indeed, as Edwards and Potter note "[p]eople casually and routinely construct formulations ... as part of everyday discursive practices" (p. 17). However, a lack of explicit intention makes these actions no less significant. In my analysis of Ursula's teaching, I do not mean to suggest that every nuance was intentional. My aim is rather to uncover the underlying discursive practices upon which she draws and which she may be unaware of enacting.

## **INTRODUCING THE SESSION**

The following analysis is of the introduction to a session on fractions, decimals, percentages, ratio and proportion abbreviated to FDP RP in the Course Notes for Numeracy Consultants). Ursula had taught this session on several occasions and this was the second time that I had observed her teach it. The Course Notes (NNS, 2000) outline the following teaching plan for the Introduction:

5 mins Briefly run through the programme for Day 3 ... Then go through the objectives for this session. Emphasise that the development of fractions, decimals, percentages, ratio and proportion (FDP RP) begins in the early years. For example, there are examples of role play activities that make reference to fractions in the Framework examples for Reception;

the QCA [Qualifications & Curriculum Authority] publication Standards at KS2 Report on National Curriculum Assessments, 1997, reported that children struggle with fractions, decimals and percentages; teachers find FDPRP difficult areas to teach (p. 104)

The overall objectives for the session are outlined as follows:

To clarify the progression in fractions, decimals, percentages, ratio and proportion from Years R to 6 (p. 103)

To give practical ideas for teaching these topics (p. 110)

I note first of all that Ursula did not include either the programme for the day or the points for action since this session was no longer the first session of the day. Given a total time of 5 minutes to cover the programme for the day, the use of the action plan for learning and the objectives for the FDPRP session, the actual time allocated in the plan for the session objectives is very limited. The materials are written in an instructional voice (e.g. “go through”, “Emphasise”). This feature, common to many curriculum materials, does not, I suggest, invite change to or modification of the materials. It would appear that the intention was for the Numeracy Consultant to state the objectives very much as outlined above. However, in the three minutes that Ursula spent on the Introduction, it does appear that she did something rather more than this basic outline. I reproduce Ursula’s actual introduction below:

Transcription conventions: . , / , // - pause of less than 1 second, 1 second, 2 seconds etc; emphasis; <faster speech>; >slower speech<

10 // right we’re going to be looking at / <fractions decimals percentages ratio and  
11 proportion> / which is shortened to. <FDPRP> for obvious reasons /  
12 em / can you read this is that in focus / just about /  
13 and then we’re going to be looking largely at //  
14 the progression in <fractions decimals ratio proportion> /  
15 em. but also looking back to. a number of practical activities //  
16 em. a lot of the activities are sort of multi application /  
17 you can use them in different year groups. at different levels /  
18 but obviously you’d need to be very / secure on the things you’re actually  
19 trying to get out of the activity / em // and we’re also going to look at the  
20 language children need to . that’s alright . to develop / and the sort of range  
21 of experiences that children need to have as they go through the school  
22 // now / in both this year actually with our new cohort schools and last year //  
23 fractions the whole area of fractions decimals / etcetera. hails as an area /  
24 teachers actually find quite difficult to teach / children find very difficult to learn /  
25 and I mean that’s very. obviously verified in the QCA papers that  
26 children do find fractions a very difficult area to cope with /  
27 and don’t solve many of their tests in it /  
28 em / and thinking around this a little bit. thinking about. the sort of materials  
29 that we’ve had in school for a number of years /  
30 we’ve had things with symmetry. type activities. we’ve had things like  
31 colouring in squares / colouring in shapes colouring in rectangles / and a diet of  
32 this goes through from key stage one to key stage two key stage three again /  
33 but there isn’t always an awful lot more support / in terms of / us teaching and

34 for children for learning / in the area of fractions. particularly /  
 35 em I think we are . and have . made significant improvements in that in that last  
 36 year. in the last year / but I think there's still probably a way to go //  
 37 also what happens with many materials is you get the jumps. you get the jumps  
 38 from // colouring in half of something / to suddenly linking fractions to division //  
 39 and . equivalence. of fraction families. and being able to operate with fractions .  
 40 and there's these big jumps / that children suddenly become very confused and  
 41 they're >not quite ready for< // and I think we need to sort of think about  
 42 where those jumps / >do need to happen<  
 43 but how we can make children think that / they're ready for it /  
 44 ratio and proportion I don't think appeared very much in many materials . at all  
 45 / em / it is coming in year five . now I think a lot of people used to regard  
 46 that as if it was very definitely key stage three / or eleven plus / because that's  
 47 where you used to see it with end of key stage two children the eleven plus type /  
 48 public school exam papers / and that's where it used to come // up

I have split the text above into two sections. These sections were marked with a pause followed by emphatic 'right' or 'now' (lines 10 & 22). I suggest that Ursula was paragraphing her text (or speech) at these points, marking for her audience important shifts in her talk. In lines 10-21, she outlined the overall objectives of the session: progression and practical ideas. In the next 'paragraph', lines 22-48, she emphasised and expanded upon the issues of children's and teachers' difficulties in this area. She was explicitly following the teaching plan from the "Course Notes for Tutors" outlined above. However, she could have covered the objectives in substantially less time as I show in the following 'hypothetical' introduction, which I have excerpted from her actual words. I have omitted redundancies, emphases and repetitions to focus on the words and phrases closest to those in the NNS Course Notes:

we're going to be looking at fractions decimals percentages ratio and proportion ... and then we're going to be looking largely at the progression in fractions decimals ratio proportion ... but also looking back to a number of practical activities ... and we're also going to look at the language children need ... to develop and the sort of range of experiences that children need to have as they go through the school ... the whole area of fractions decimals etcetera hails as an area teachers actually find ... difficult to teach children find ... difficult to learn and ... that's ... verified in the QCA papers

Why did Ursula spend so long on her introduction? It seems unlikely that this extra text is simply padding and essentially superfluous to Ursula's argument. Firstly, she spends a considerable time planning her sessions and this was the third time she had taught this session during the week. Secondly, during the session she made several explicit reference to time constraints, e.g. "we've got quite a tightly packed session . I'm going to try and make up the ten minutes if I can". It seems likely that this time pressure would encourage her to spend less rather than more time on her introduction. Yet, she actually devoted 471 words to her introduction – roughly five times as many as the 98 words in my hypothetical introduction. This took perhaps an extra two and half minutes, which can be a long time in teaching. I also note that she did not include one of the extra emphases from the Notes for Course Tutors: FDPRP "begins in the

early years”, although she did refer to this at several points later in the session. She might have simply forgotten this point or she may have excluded it in order to place her emphasis elsewhere. Given her planning and preparation time together with this point’s inclusion elsewhere, I suggest the latter.

## ANALYSIS AND DISCUSSION

As Ursula progressed through the Introduction, she made many and repeated references to ‘we’, by which I suggest she was ‘including’ the teachers to create a local community of practice (Wenger, 1998). This notion of working together was emphasised in line 33: “in terms of us teaching”, and again in lines 35: “I think we are . and have . made significant improvements”. There is a sense too of connecting herself and the teachers with the wider community of teachers in both of these excerpts. Having used this device of inclusion to share responsibility for the “significant improvements” to date, she continued to include the teachers in the responsibility for further changes: “but I think there’s still probably a way to go” (line 36). I note here her use of “I think”, warranting the statements from her position as an expert. This reference to “us teaching” also draws attention to the way in which she used the references to “we” to root her expertise as a Numeracy Consultant in her experience and knowledge as a teacher.

The repeated references to ‘we’ make the points where Ursula deviated from this all the more emphatic. Consider lines 16-18, here she shifted from the ‘we’ in line 13 to ‘you’ repeated three times. She excluded herself from this “you” who need to develop the knowledge of “the things you’re actually trying to get out of the activity”. In doing this, the ‘fact’ that she herself has the necessary knowledge and expertise is strongly warranted. This combined with “obviously”, “very secure” and “actually” made this point about teacher knowledge very forcefully and placed this at the centre of her agenda for the session. I suggest that this use of the pronouns in including and excluding was an important tool in positioning herself and the teachers within this local community of practice and beyond.

In lines 23-29, at first glance Ursula appears to have strengthened the warranting of the claims about teachers’ and children’s difficulties by changing the reference to QCA findings from “reported” in the Course Notes guidance to “very obviously verified”. However, she also made reference to different types of warrant: the “actual[ ]” situation in “our new cohort schools”; and, a more passing reference to the QCA national tests. I suggest that the text here can be read as: because of what ‘we’ know to be the case from ‘our’ local experience, ‘we’ can “very obviously verif[y]” the QCA findings. The reference to the QCA tests, although brief, situated the QCA research findings within teachers’ and schools’ priorities to do well in these tests. In tempering the instructional voice of the Course Notes through this consensual warranting, she made the point about children’s difficulties very forcefully. I suggest further that she was tacitly drawing on what Sebba (1999) refers to as evidence-

informed practice, that teachers mediate research findings in terms of their teaching context.

In the short section, lines 28-32, Ursula made use of what Edwards and Potter refer to as a three part list. In fact, she used not one but three such lists: “we’ve had ... we’ve had ... we’ve had ...” (lines 29-30); “colouring in squares / colouring in shapes colouring in rectangles” (line 31); and “a diet of this goes through from key stage one to key stage two key stage three again” (lines 32). I note also that she drew on primary teaching discourse in her use of “colouring in” for which we might read “time-wasting”. The combined effect is, as Edwards and Potter argue, to go beyond mere emphasis and to present a strong and vivid image of this “diet” of “colouring in” as a “complete and representative” (p. 163) picture of what has been happening “continually and routinely” (p. 144) in primary fractions lessons. Moreover, I note that she repeated her use of the three part list in conjunction with “colouring in” in her description of children’s confusion when faced with “jumps” (lines 37-43), but at this point she linked this to the more explicitly mathematical discourse of division and equivalence.

In lines 44-48, Ursula concluded her introduction by referring to the changing expectations on primary teachers. I note here the softening of her language (e.g. in line 44, “I don’t think” rather than “I think didn’t”; and in line 45, “it is coming in year five” rather than “it is in year five”). Her reference in line 45 to “a lot of people” rather than either teachers or the pronouns ‘we’ or ‘you’ allowed the teachers to either include or exclude themselves. This ambiguity together with the softer language gives a strong sense of acknowledgement that changes in expectations are difficult and that the process of change will be gradual.

In this short paper, I have used Ursula’s introduction to explore aspects of her teaching style. I have drawn attention to three principal features of her style: her use of the pronouns ‘we’ and ‘you’; her use of rhetorical devices such as the three part list; and, the way she drew on the discourses of both primary teaching and the NNS. I have suggested that her use of discourse increased the variety and strength of warrants to her own and the NNS’s claims concerning teaching and learning. I further suggest that in using these devices she has developed a more persuasive and inclusive style than the instructional mode of the NNS Course Notes.

## REFERENCES

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