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### **Fieldwork for success.**

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# Fieldwork for Success<sup>1</sup>.

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**1 Introduction** It is quite widely accepted that students have a better understanding of things they have discovered for themselves as opposed to information simply given to them, via lectures and prescribed reading (e.g. Mazur 1997, McKeachie & Hofer 2002). In phonetics, Catford, on the basis of his own learning experience in the 1930s, devised a course which guided students through the learning process via a series of "simple introspective experiments" enabling them "by actually making sounds" to "discover how they are produced and learn how to classify them" (Catford 2001: v). There are parallels to be drawn here with an approach adopted by Murphy to the study the whole of linguistics, *linguistics in a word* (Murphy 2003) which she reports as being enjoyable and effective. We do not have the leisure in today's curriculum to adopt an exclusively empirical approach, but integration of experimentation and exploration alongside traditional talk and chalk does have a place, as Murphy demonstrated.

Phonetics is a subject which does not always sit easily in the arts curriculum, but which usually needs to be studied by students of linguistics and language. It is rare – not just in phonetics – to find a method of learning that can also function as a means of assessment and which is, at the same time, popular with students as well as enhancing the learning experience and levels of achievement. The investigative approach required by the inclusion of a fieldwork-like exercise from day one of the course by means of an individual and unique field notebook (taking its inspiration from Catford and Murphy and first described in Ashby, Manamperi & Youens 2005) is one such method.

Field notebooks, however, are quite labour-intensive with regard to marking and they are demanding from the students perspective in that to work best they require discipline and rigour – they **must** be written on a weekly basis. To justify their use, we need evidence of their effectiveness – ideally statistical proof as well as student approval. So, since introducing this innovative technique into my own course in 2003, I have been refining the model and observing the results. This paper reports on the latest results.

**2 The technique** Briefly, the Field Notebook is an exercise designed to ensure that students engage with phonetic theory as they learn it, requiring them to apply the theory to the description of speech from the very first day of the course. In the first class, each student is given a word or phrase for which they build up, week by week, a detailed articulatory account, developing and amending the description as the weeks go by. For example, given the phrase *the pens*, in the first week of their phonetics course, students might learn the practical skills of how to look this up in a pronouncing dictionary and, adding stress and the weak form of *the*, make the phonemic transcription /ðə 'penz/. There might also be a first encounter with the concept of voicing, distinguishing voiced/voiceless sounds and drawing voicing diagrams. A switch from phonemic to phonetic brackets might occur in the second week which might also add place of articulation and vocal tract diagrams. Knowledge, gained incrementally, can thus be applied immediately to developing the account of the given data, culminating in a traditional articulatory description, supported by a detailed narrow phonetic transcription,

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with a parametric representation showing vocal fold and velum action, and appropriate vowel and vocal tract diagrams; the utterance is then recorded and, using speech analysis software, compared with a final spectrogram. If we draw a parallel with learning a foreign language, the students are required to 'talk and write phonetics' right from day one. (See Ashby, Manamperi & Youens 2005 for a detailed account of the process.)

**3 Evaluation** If this investigative and student-centred method of learning has a positive effect on knowledge and understanding, it would be reflected in scores for summative articulatory descriptions, written towards the end of the course (after completion of the notebook itself) and performance in the final written examination. It was also hoped that students would enjoy writing their notebooks and that the exercise would have a positive effect on the whole learning experience in this subject.

In an attempt to monitor the effect of the notebooks in respect to both achievement and enjoyment, I selected a couple of cohorts at random from the pre-notebook period and compared what I found there with the picture since the notebooks came into use. The findings are based on the results of two cohorts prior to 2003 (totalling 48 students) and the three cohorts who have researched and written notebooks subsequently (totalling 56 students). A number of results were excluded from both populations: students repeating the course, students who failed to complete overall (no-shows for the final examination) and/or students who failed to submit more than one of the salient pieces of coursework.

Evaluation of the remaining results consisted of comparing scores across the two populations for each of two articulatory descriptions (written in the second part of the course) plus the exit-point formal written examination using the actual percentage marks awarded in each case. Opinions expressed in the university's annual module monitoring questionnaires were also studied to garner views of the module and gain an impression regarding the relative level of enjoyment (before and after the introduction of notebooks).

**3 The students' view** From the beginning, students seem to have been in favour of the Field Notebook as a method of assessment. In Ashby, Manamperi & Youens 2005, two of the authors were final year undergraduates who reflected on the value of the field notebook and on the way in which it focused and enhanced their learning as students just beginning the study of phonetics.

My university operates a strict monitoring procedure which involves the annual collection of student feedback questionnaires for every module on every course. Students' spontaneous comments, often provided at the end of this form in response to prompts such as *What did you find the most/least interesting part of this module?* have been illuminating. Comments pre-dating the notebooks were largely anodyne (apart from extreme expressions of loving or loathing the discipline). Feedback included remarks such as *too much to learn* (2001) and that the least interesting part of the course was *the actual theory part* (2001), *lectures about the physiology of the mouth* (2002).

Since the introduction of the notebooks, however, the comments are more focused and more engaged. Students report with reference to the notebooks that *it was nice to do something a bit different than a standard essay* (2006). They were also fully conscious of how much they had learnt, commenting: *I was amazed at the depth of knowledge I obtained through this course in such a short time* (2005); *I was just looking at my notebook – I was amazed how much we have learned* (2005); *doing the field notebook was [...] great fun and a good way of helping my understanding of the subject* (2006).

**4 The statistical evidence** The number of students involved in this survey is very small with cohorts ranging in size from about 10 to 30. By the time dropouts, no-shows and repeating students have been eliminated from the count, the numbers are too small to have real statistical significance. But they are not too small to indicate a possible trend.

In the years before the introduction of the field notebook, students reached the point in the second part of their course where they were required to write a couple of detailed articulatory descriptions as part of their assessable coursework with ever having "talked/written phonetics" before – assessment of their understanding of phonetic theory had only been of their passive knowledge (in a mid-year multiple choice progression test). Results for these two exercises, and later for the formal written examination, were almost invariably discouraging (for staff and students alike). Average scores for these two exercises and for the written examination for the last two cohorts immediately prior to the introduction of the field notebook can be seen in the densely shaded columns in the chart in Figure 1 – articulatory description 1 averaged 52.8% (the range was 23% to 90%), articulatory description 2 50.4% (range 20% to 90%) and the written examination 49.5% (range 19% to 77%). These marks suggest to me that the majority of students in any given cohort do not fully understand the theory they have been studying.

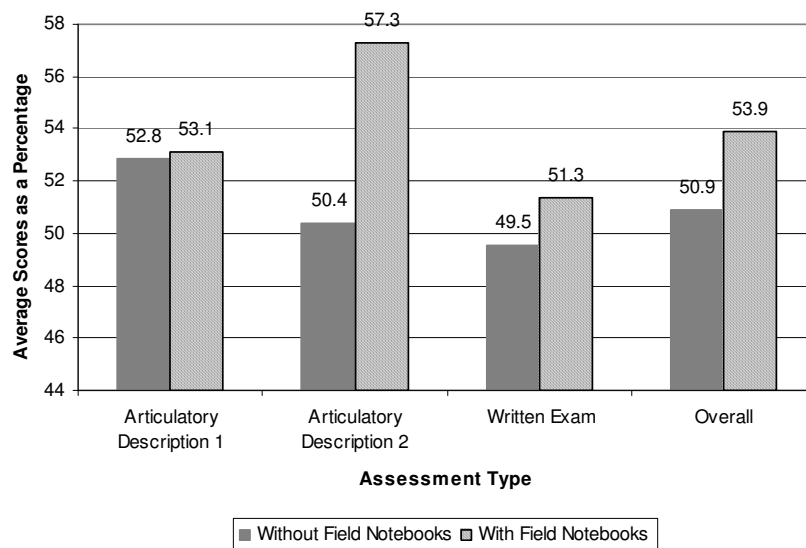


Figure 1. Comparison of performance before and after the introduction of field notebooks

Since the introduction of the field notebook exercise, there is some evidence of improvement. Average scores for the three cohorts who have written notebooks so far can be seen in the lined columns in the Figure 1 bar chart. These are always higher than the *pre*-notebook, shaded columns: post-notebook articulatory description 1 is just very slightly higher at 53.1% (range from 10% to 85%), post-notebook articulatory description 2 is a lot higher at 57.3% (range from 15% to 90%) and the post-notebook written examination is up a small amount to an average of 51.3% (range from 13% to 76%).

What is particularly interesting, however, is the effect on overall performance and the pass rate, shown in Figure 2. Before the introduction of the notebooks, 23% of students (nearly a quarter of all students studying phonetics) failed, with a mark below the university's 40% pass boundary, and nearly half (48%) scored less than the 50%

demanded by the International Phonetic Association to gain their *Certificate of Proficiency in the Phonetics of English*. Since 2003, however, after the introduction of the notebooks, the university fail rate for phonetics has dropped to 14% and a few more students could consider entry for the IPA examination (those with a mark below 50% has

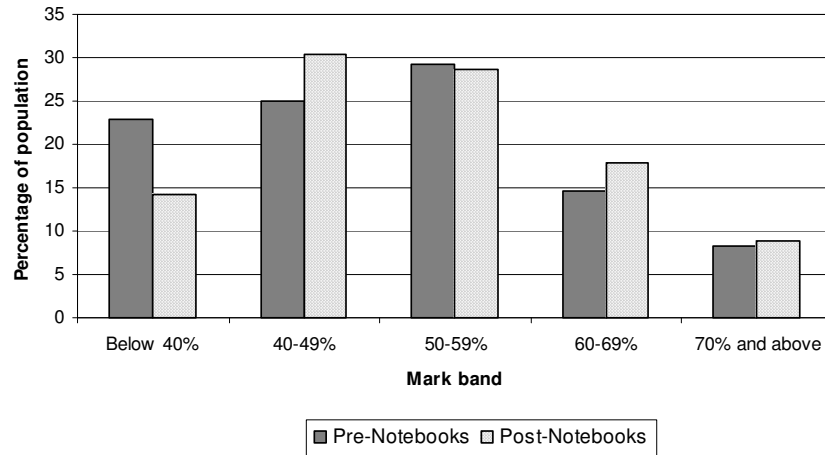


Figure 2. Overall average achievement levels

dropped slightly to an average of 44%). The increased number of students in the third class degree band (40-49%), following introduction of the notebooks, is clearly the direct result of more of the weaker students understanding enough to move from the fail band into the pass band. The number of students in the upper second class and first class bands has also increased, from some 23% of the population before the notebooks to over a quarter of all candidates (27%) since the notebooks were introduced.

**5 Concluding remarks** As already said, the actual number of individuals here is small, but the trend is undeniable: the Field Notebook does seem to be responsible for a measurable increase in achievement in this subject. The question still remains, however, as to whether the additional work involved for the teacher is justified by this enhanced level of student achievement. This, I believe, is where it has to be a matter of individual choice. What this study can tell us, however, is that we are now in a position to make a properly informed choice – the extra work definitely appears to translate into extra marks for the students, particularly the strongest and the weakest ones.

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