

Science, Medicine and Technology: English Grammar and Technical Writing by Peter Antony Master. Englewood Cliffs, NJ: Prentice Hall Regents, 1986. xv + 335 pp.

Writing Up Research: Experimental Research Report Writing for Students of English by Robert Weissberg & Suzanne Buker. Englewood Cliffs, NJ: Prentice Hall Regent, 1990. vi + 202 pp.

A Comparative Review of Two EST Writing Textbooks by
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The ultimate goal of a writing instructor is to prepare his/her students to write in "the real world". Likewise, the purpose of a writing textbook intended for use by ESL learners in science or academia is to enable the student to communicate in the scientific discourse community. Consequently, the goal of such EST textbooks is to convey to their users the currently accepted conventions of writing for professional/academic audiences. This review will examine two recent texts, *Science, Medicine and Technology: English Grammar and Technical Writing* (1986) by Peter A. Master and *Writing Up Research: Experimental Research Report Writing for Students of English* (1990) by Robert Weissberg and Suzanne Buker, and evaluate their methods for achieving this goal.

Science, Medicine and Technology was written for "foreign students who are studying or have studied science, medicine or technology." It aims mainly at exposing the student to a variety of "rhetorical patterns," as Master describes them, which are common in scientific writing. Such patterns include rhetorical modes such as the amplified definition, the description of a process, and the research/feasibility report. In reality, these patterns appear to be more like written products rather than rhetorical modes and the author's presentation of them seems to be product-oriented. In each of the six units, the structure of the pattern is presented and each part's function is analyzed. Several authentic models are given for each pattern. The models are appropriate for the difficulty level, both in content and grammar. A subsequent exercise asks students

to analyze the models according to the outline presented, followed by a free writing exercise requiring students to write in that pattern.

While Master's choice of models is good, several weaknesses appear in his use of them. Rose (1983) has commented that when models are used to teach organizational patterns, too often the patterns end up being "conceived of or taught as 'modes' of discourse or as rigid frameworks." Master has fallen into this trap. Despite his excellent, detailed analysis of the patterns, Master does not effectively apply it to the analysis exercises in the text. He gives no specific directions on how a student might go about analyzing a model other than in comparison with his outline of the patterns. Students need more guidance on how to analyze while reading in order to make the most of the models given. Scardamalia & Bereiter (1986) remark that although students will learn much about the written product from reading examples, "reading typically furnishes no clue to the process by which the literary work was brought into existence." Exercises containing fair amounts of guidance are needed to encourage and guide the students in reading models rhetorically (Hairston, 1986), so that the students better understand the reasoning behind the organization. It is the strategies (Rose, 1983) that they need to acquire along with the pattern structures.

The majority of each of the units in *Science, Medicine and Technology* is not composed of the rhetorical structure lessons and models, but grammar lessons and exercises. The range of grammar topics addressed is quite extensive, ranging from articles to negation to sentence subordination. Master's coverage on articles is particularly noteworthy and comprehensive; each unit contains a section covering a particular aspect of their usage. Although these grammar drills may have some value in helping to produce the chunking of operations described by Purves & Purves (1986), Hull (1985) notes that the efficacy of drills in helping students to produce an errorless text has been called into question in recent years. Another drawback to the grammar sections is that most of the exercises are sentence level; almost none force the student to work with a whole discourse. Master notes in the preface that "no attempt is made to make the grammar exercises communicative." His encounters have suggested to him that science students are accustomed to "formulaic presentations" and find the communicative activities "unproductive." Such an evaluation may well prove true for classroom activities, but surely the students have a need to see the grammatical structures within a discourse context. The ability to

use such grammatical structures in writing is dependent not only on the ability to form them, but also on knowledge of when to use them (Purves & Purves, 1986). Without seeing them at the discourse level then, the students may not learn to recognize the appropriateness of a particular structure and how various structures combine to produce a specific rhetorical effect.

Weissberg & Buker, like Master, approach the teaching of scientific writing with a product-oriented approach in *Writing Up Research*. The book is designed to train writers to produce the various sections of a research report and the units are divided accordingly, one section for the abstract, another for the introduction (three sections, actually) and so forth.

One might note that real scientists do not usually prepare their papers in the order of the structures presented in the book. In fact, a study by Rymer (1988) suggests that one of the later parts of the paper is actually composed first, i.e. the results section, by often-published successful scientists. The text sequence does however place the rhetorically simpler parts of a paper earlier in the lesson sequence, which is reasonable from a pedagogical perspective.

The exercises in *Writing Up Research* seem to indicate an emphasis on learning by doing: the students are expected to learn to write by reading authentic journal articles from their field and then analyzing them in a number of ways. The sequencing of the exercises is also effective, each exercise requiring a greater internalization of the writing mode and structure. For example, in the unit on literature reviews, Unit 3, the exercises begin with an analysis of a provided literature review; Subsequent exercises require ordering citations that have been randomly jumbled. Students are then asked to do a library search for articles which they can then analyze for their literature review, before doing a guided writing exercise in which a context is set for them. Then the students are ready to produce their own review. Students are also asked to conduct their own research projects, which provides them with authentic data to write about during the course. The free writing exercises consist of writing the various sections (e.g., introduction, abstract, etc.) for a research paper on this project. One should also note that a number of different exercises focus on the same piece of text, which forces the student to deal with the same text in a number of ways.

One of the strengths of the exercise sequence is that it is designed to teach the student to read rhetorically. The questions presented guide the student to read for not only the presence of a particular grammar structure, but for the purpose in using the structure as well. Such an approach aids students in understanding the process behind the writing and constitutes a good use of models (Hairston, 1986). The fact that students are required to do library work certainly is a benefit in that it grants students greater exposure to the variety of texts used within their field of study, exposure that serves as “the appropriate input for acquisition of writing skills” (Eisterhold, 1990)

Unfortunately, some of the models chosen by Buker & Weissberg are too simple and do not reflect an authentic text’s grammatical level. In general the contents of the whole textbook are overly simplified though its intended target audience is “high-intermediate and advanced ESL/EFL university students at the upper division or graduate level”. The simplicity does not seem to be appropriate for the advanced student in the opinion of the reviewer. While the exercises help a student to read rhetorically, they also seem to be too simple to challenge an advanced student.

Weissberg & Buker’s grammar sections are less comprehensive than Master’s. While they are simple, they are rhetorically relevant to the units in which they are placed. The grammatical exercises are fairly contextualized, almost all being placed in the context of an entire discourse. Again, like the rhetorical exercises, the grammatical exercises tend to be simpler than necessary for advanced ESL students.

Overall, both Master’s book and the Weissberg/Buker book are well-written, each having its strengths and weaknesses. Master puts forth very detailed analyses of both the rhetorical patterns and grammatical structures, but does not focus on teaching rhetorical reading in the use of his models. Neither does Master base his grammatical exercises on a discourse context, although the omission is a conscious one. Weissberg & Buker, on the other hand, do base their grammatical exercises on discourse pieces. Their rhetorical pattern exercises are well sequenced, with progressively decreasing amounts of guidance given. They also make good use of their models in teaching rhetorical reading. Teachers who choose either book would not be making a poor choice. They must simply be aware of how each book does or does not reflect reality in scientific

writing and must consequently complement the weaker areas with their own teaching.

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