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ABSTRACT

The negotiation, development, testing, and publishing of a specialized text for instructing Chinese geologists and petroleum engineers in English as a second language are chronicled. Aspects of the process discussed include the initial contact and oral agreement with the corporate representative who had requested the training materials, scheduling the text preparation, deciding on an approach, accommodating the language teacher's lack of familiarity with the technical content, selecting material on which to base the text, writing appropriate and workable exercises, coordinating efforts among three writers, field testing the materials, publishing and distribution considerations, and copyright. (MSE)

GROUNDWORK: AN INTERMEDIATE-LEVEL TEXT OF ESL FOR PETROLEUM ENGINEERS, GEOLOGISTS, AND GEOPHYSICISTS

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Once upon a time, in an ESL program far, far from solvent, a band of dedicated, unsuspecting professionals embarked upon a quest for the perfect model for an ESP text. Hardy were they and quick of wit, tempered by the fires of the crosscultural classroom. With unexpected swiftness, their journey led them from the shifting yet predictable sands of the classroom across the sharp shale of corporate deadline to the anticlines of field geology. The world was all before them.

You may wonder if we exaggerate. Let me ask you; as you yourselves consider customizing language courses for specific groups, are you prepared for the complexity of evaluating and selecting your theoretical framework? Have you asked yourselves: what kinds of underlying assumptions must one adopt to ensure communication with the corporate sector? How do the needs of the corporate sector vary from academic needs? How can your conception of language learning ground a corporate training package? Beyond the simple considerations of time and cost, how can you provide materials that

offer efficient, effective language acquisition? On a more practical level, where will you find your materials? Do you have the expertise to create authentic materials? Can you read and understand authentic materials in the field? Are you versed in copyright law and rules for using materials from another author? How will you negotiate the contract? In terms of time, space and staffing, can you deliver?

Perhaps our recent experience in the development of ESP training materials will help you formulate a framework for your own approach to the problem.

In our case, making the initial contact was simple because the *corporate* representative came to us. In August 1983, a representative of Esso Exploration, Inc. conducted telephone surveys of Houston universities and language institutes. His goal: to fulfill the requirements of a joint venture contract with the PRC by finding providers of English language training for Chinese geologists and petroleum engineers. After interviews and on-site visits were completed in September, the English Language Institute of the University of Houston-Downtown was chosen because we offered 1) experienced instructors (minimum five years ESL teaching), 2) knowledge of China and the needs of the adult Chinese language learner (a member of our faculty had taught for a year in China), 3) a highly competitive price, and 4) a director who communicated clearly and comfortable within the corporate sector.

In addition to agreeing to provide ESL courses for language learners of unknown proficiency who would arrive in the U.S. at an indeterminate future date, the ELI (shrewd negotiators that we were)

also agreed to customize ESP training materials for use by geologists and engineers in China -- trainees who were in the upper level of a program that taught language and culture as separate entities and that employed both Americans and Chinese as instructors. And such was the birth of Groundwork.

Because this was our first experience in customizing technical materials on such a large scale, we set our fees modestly. In exchange, we received verbal (and later written) assurance that the base materials would be nonproprietary and non-copyrighted to allow us the possibility of publishing our finished work.

It was October. The Christmas holidays were in sight. When asked, "how long will it take to develop these special materials, this 'micro-minitext' ?" we confidently replied, "three months" -- certain that the intervening holidays would allow ample time for us to finish this task before reporting for duty as the local committee in charge of the TESOL Annual Convention in March.

In mid-February 1984 we received the packet of base articles. We began to make final curriculum decisions and to write.

Because a text like Groundwork must address the language needs of professionals who easily command the concepts and methods of their field, yet lack adequate English language skills, traditional materials for language teaching lack the technical slant this text required. The basic problem faced in preparing the text revolved around the issue of authentic versus manipulated (for example, simplified) materials. The use of manipulated materials offered the luxury of controlling the munber of linguistic elements introduced

into any lesson, whether lexical, structural, rhetorical or stylistic. It permitted, furthermore, a tight focus upon designated aspects of language within a chapter and a later repetition of the same elements for reinforcement. The use of authentic materials, on the other hand, offered the appeal of being the precise material students would soon be required to use in their daily work. An equally important benefit was the control of technical and scientific concepts and idiom; as linguists, we were hardly prepared to anticipate, produce and manipulate (all without error) the idiom of another profession.

Perhaps the deciding factor in the decision lay in a shared prejudice we all held about language learning -- that language *cannot be* taught as separate pieces (skills, vocabulary, rhythm) to be somehow integrated later in the student's English awareness. Rather, language is learned in a comprehensive manner form the beginning. Students need to work with and analyse language within the complex web of meaning, structure and organization that is typical of any pruposeful, authentic communication. Working from this precept, then, we chose the admittedly complex, dense language of authentic geologic documents.

And that choice immediately presented a new problem. The teachers who would use the text were, like us, trained linguists, not scientists. Therefore the scientific concepts, the technical difficulties, and the new idiom would create obstacles to their own understanding and manipulation of the material for teaching purposes. We had to find a way to educate the teachers of the text about the subject itself, and that clearly required more time than any average language teacher had to devote to a text. To compound

matters, teachers using the text in an oriental country such as China would find themselves in the difficult position of losing face due to their uninformed position concerning the material they were teaching. A sticky wicket, indeed!

Our solution, a working one to date, extablishes the material as a two-way exchange rather than as a traditional flow of information from teacher to student. Students are charged with the responsibility of explaining in oral and sometimes written production the more difficult technical concepts of the text to their teachers, using their new y acquired language skills. This added dimension of the text offers a new dynamic in language teaching. The non-geologist language teacher and the geologist student work together in an authentic, professional context where each clearly knows the training of the other and uses the gaps to facilitate language learning.

Because of all these theoretical and practical considerations, we decided to base the lessons on completely unabridged geological and geophysical literature. We took the material selected by Esso's geologists as typical of their field's publications, and incorporated it verbatim into the text. We dropped a few paragraphs from one article, but nothing was selected, altered or edited in any way to accomodate an artificial, preconceived format.

Once we had settled on the material and divided it into portions that could be handled within the context of chapters, we began an extensive analysis of the language. Our foremost goal was the development of reading and oral production skills, but naturally almost every area of language learning was brought into play for

such a goal. We divided exercises and analyses of the language into four basic areas that we repeated with each lesson. Before students began a new reading, a pre-reading section focused their attention on material divisions, charts and graphs and upon their own expectations of the content. After the material had been read, students were asked to work through a series of contextual vocabulary exercises as well as reading exercises that focused on various skills. A section focusing on the basic ways in which language structure affects meaning followed. Writing exercises were sometimes included. The final section of each lesson worked toward oral expression, particularly in a professional context.

We turned our calendar pages from February to March.

Having achieved the division of the material and the thrust of the exercise units, we divided the exercise and analysis areas among us. The first two sections were developed by C. Susan Turney. The structural section was developed by Gail Kellersberger. The oral production work was developed by Susan Rippert-Davila. We each took a full copy of the geologic material, analysed it for our own skills purposes and produced the explanation and exercises to accompany each lesson.

C. Susan Turney approached the reading exercises with the basic plan that everything worked on had to be part of the contextual material. The vocabulary exercises relied on context clues such as word chain repetition, restatement, reference and classification. Students never faced long lists of vocabulary words to look up or memorize, as this type of activity did not fit with our preconceptions of language teaching. The various types of comprehension questions

demanded synthesis, analysis of opinion, analysis of inference and equally difficult skills that required students to search for imbedded meaning rather than skim a simple phrasal answer from the surface of the material.

Gail Kellersberger approached the structural exercises through rhetorical analysis. Organizational methods that affected meaning were presented along with the typical key words and transitional phrases associated with them. Passage meaning was analyzed by means of these guides. Prediction skills from rhetorical analysis were emphasized. Specific grammatical structures were presented as methods of communicating specific types of information, and difficult wtructures were analyzed for meaning. Rudimentary organizational skills for writing were presented although writing as a whole was not a focus of the text.

Susan Rippert- Davila approached the oral production exercises with awareness of the specific production problems typical of Chinese speakers of English and, more importantly, of the characteristic attitude of the Chinese student toward oral production. The exercises centered around tasks that the student might well be required to perform in professional activity, offering patterns common to the communication of specific types of information. Often exercises focused on certain pronunciation difficulties common to the Chinese student.

For the most part we worked independently of each other, checking every day or two to encourage each other to maintain the pace required to meet our self-imposed intermediate deadlines and to maintain compatible decipherings of difficult technical passages.

When all the language analysis and the exercises were completed, we got together and began the process of fitting the material into a workable progression. We found the basic drafts to work fairly well. Certainly, we added materials that reinforced skills taught in another writer's section within a chapter. We found some duplication but not enough to warrant a restructuring of anyone's draft; in fact, it acted as reinforcement. Very little time was required to create the flow we wanted in the material. However, a prodigious amount of time at the computer word processor keyboard was required to get the material set up in a visually satisfying format.

We wrote the preface together, finding once again to our delight how much our philosophies agreed. We shuddered to think how it might have worked had we held radically differing approaches to language teaching. When the material had been prepared for the printing, a task which included the copyright page, pagination, and the textcover design, we chose a color and binding method and took the manuscript to a printer.

Our first goal with the text was to field test the material with Chinese students, which we had immediate opportunity to do, as a group of Chinese trainees arrived in the U.S. in the middle of March. When we had worked through at least a chapter and found the text to be successful, we had a colleague who knew nothing of our work or of geology teach from the text. Again, the text worked quite well, and we knew our model of a two-way teaching environment was not only workable but highly productive. But would it work overseas? The copies of Groundwork used on-site in Guangzhou received a favorable review by the American director of the program.

Later reports (in the fall of 1984) from China indicated the need for an answer key and tapes. After an exchange of telex messages, we realized they wanted a teacher's manual, a project we have not yet undertaken.

Our next goal and our most challenging problem concerned publication. First, we decided whether we wanted to continue production and distribution of the text ourselves or whether we wanted to submit the manuscript to a publisher. We considered the costs and effort involved in market research, sales trips and text production versus the likelihood of royalty income from a publisher. We believe that the text would be more lucrative and would reach more people if we could market it ourselves. However, time constraints impeded that process and we realized we might never get the book out. Therefore, we submitted it to Prentice-Hall, Inc. The editor kept the manuscript for approximately three months, during which time it was sent out for market reviews. (The editor had discussed the text with us prior to our submitting it and had indicated that the selectivity of the material might present a marketing problem too great to warrant its publication.) We recently received a very encouraging letter in which the editor both turned down the manuscript and suggested specific publishers that might well accept it.

Concurrent with the submission of the manuscript to Prentice-Hall was our pursuance of clear copyright. We had not obtained formal written permission to use the authentic materials, although we had informal verbal and written acknowledgement and sanction of our intent to publish and market the work. To that end, we had already filed for and received copyright to the material. In the interim,

however, one of the technical articles we used has been published in a journal and another article is now considered proprietary.

Despite this turn of events, relations between us remain cordial and productive. Our English Language Institute is now providing language instruction for another group of Esso Chinese engineers and geologists. and we are assured of the good faith of the actions of the company's representatives. Their initial doubts about the feasability of working through the copyright problems have turned to interest in pursuing clear permission for our use -- but the copies in China may be recalled to the U.S.

A few parting works of advice for other language instructors considering following the path of special-purpose materials development (in addition to the theoretical and practical concerns mentioned earlier):

(1) The task will take longer than you think it will.

(2) You will need:

- enormous quantities of coffee
- a tolerant spouse or good friend to brew coffee, help to cook for co-authors, retrieve material erroneously deleted from a computer disk, and tolerate raucous debate at 2:00 a.m.
- an office desk large enough not to lose notes reminding you to teach your 10:00 class

(3) Co-authors need to hold complimentary assumptions about language learning and teaching.

(4) Be certain to spell out details of copyright and distribution rights in a formal written document beforehand.