ABSTRACT
        Results of a need analysis of foreign-born teaching
assistants (FTAs) at Drexel University (Pennsylvania) and also at the
University of Pennsylvania are presented. Attention was focused on
the duties and performance of native speaker TAs and the linguistic
and interactional skills that account for success, and problems that
negatively affect FTA performance. Questionnaires were completed by
FTAs and native-speaker TAs in science and engineering departments,
as well as by department heads and faculty involved in TA
supervision. Observations were made in classes, laboratories, and
office-hour sessions in a variety of departments. Written material
that had been graded or created by TAs were also evaluated. Findings
include: TA duties varied widely by department; TAs, particularly
FTAs, were not selected as classroom teachers very often in their
first year; frequently TAs were lab instructors and graders; a main
problem for FTAs was pronunciation; and stress timing of English and
intonation patterns also posed problems for FTAs. Consideration is
also given to discourse strategies, repetition, summarizing,
refocussing, non-linguistic strategies, classroom interaction, and
cultural issues. (SW)

TRAINING FTAs: REPORT OF A NEEDS ANALYSIS

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The materials in the Special Collection on the Training of Teaching Assistants were developed through the active efforts of numerous educators who first met at the 1986 National Conference on the Institutional Responsibilities and Responses in the Employment and Education of Teaching Assistants held at the Ohio State University. Assisted by more than 80 individuals, the committee chairs listed below were able to establish the collection which will be developed and maintained by the ERIC Clearinghouse for Higher Education. This arrangement will enable faculty members, faculty developers, administrators, TA supervisors, and graduate teaching assistants to have access to TA training materials produced by institutions across the nation.

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Training FTAs: Report of a Needs Analysis

The number of foreign graduate students in American universities is growing, and there is every reason to believe that this growth will continue. Inevitably, this has meant that the ranks of foreign teaching assistants (FTAs) are also increasing. The result has been numerous complaints from the students and professors alike, and demands that ESL staffs "do something" about FTAs' "English" problems.

This paper reports on a needs analysis of foreign-born TAs at Drexel University, and to a lesser extent, at the University of Pennsylvania. As at many other universities, the majority of FTAs at Drexel are in technical areas, and many have communication difficulties. A pre-academic year training progam was established for them in 1981. Originally, the content of the teacher preparation was based on what the ESL professionals at Drexel thought the FTAs needed, based on their own intuitions and their own experience in the classroom. There was not a great deal of research to draw on which specifically dealt with the problems facing FTAs, although studies are now appearing--among them, Bailey, Pialorsi and

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Zukowski-Faust (1984); Ard (1986); Fisher (1985); Klein and Plakans (1986); Davis (1984). A number of handbooks, how-to guides, and reports have also become available from various universities which have large numbers of FTAs: Berkeley (Cohen and Robins 1985); Penn State (Costantino 1986); and others at Michigan State, Ohio State, Arizona State, Utah State and the University of Kentucky.

Meanwhile, the Drexel staff decided that, in order to prepare the incoming TAs adequately, it would be necessary to conduct a needs analysis, following Munby (1978), to determine more precisely what is expected of TAs. We were also guided by Mackay (1978) and Schmidt (1981). There were two broad questions. First, what are the duties of native speaker (NS) TAs, how do they carry them out, and what linguistic and interactional skills make them successful? Second, what are the specific difficulties--linguistic, communicative or other--which negatively affect the performance of the FTAs?

I. Kinds of information

Several kinds of information must be gathered in order to answer these questions. First, the activities of the TAs must be ascertained: What do TAs do--NSs, as well as their NNS (nonnative speaker)

counterparts? Are there differences in what is expected of the TAs in these two groups? How much of their time is actually spent in the classroom? Frequently, TA training courses are aimed only at improving the performance of the FTAs before a class. However, there are a number of other, often more time-consuming tasks which also fall to the TA. What are these other duties, and what skills are necessary in order to carry them out? Is spoken interaction always called for? What writing skills are needed? These are the kinds of questions which must be answered as a first step in the needs analysis. There is little point in concentrating on classroom observation if that is not the primary, or at least an important, FTA activity

Second, it is important to consult the opinions of those who interact with the FTAS. What are the undergraduate students' perceptions of the problems of FTAs? Do the professors they work with have any explicit or general complaints or comments about them? The FTAS themselves may also provide some insight into where their own problems lie.

Finally, detailed observation is necessary to pinpoint the source of communicative breakdowns and conversely, to make explicit the techniques, strategies and styles which contribute to successful communication. In what ways are the classroom, lab, and office-hour

sessions of successful TAs different from those of unsuccessful TAs?
The answers may in turn indicate some avenues for material and
curriculum development for FTA training. In particular, it may be
necessary for FTAs to go beyond what successful NS TAs do. FTAs need to
be even better prepared for their duties than NS TAs, who often can get by
in the classroom on their communication skills alone. For instance, if a NS
TA is confronted with an unexpected situation, and is perhaps unprepared
himself or herself, or if the students fail to understand the explanation he
or she has offered, it if often possible for him or her to "wing it." The FTA
generally cannot do this and thus may have to anticipate these situations
by, in a sense, overpreparing.

II. Sources of Information

In our case, the answers to the questions raised here were gathered
from four main sources.

1. Written questionnaires were distributed to all of the TAs (both
FTAS and NSs) in the sciences and engineering departments. These
questionnaires elicited information on what portion of their time was
spent on which duties   The latter included classroom instruction,
laboratory supervision and demonstrations, interaction with individual

students after class and during office hours, preparing material for classroom or lab presentations, preparing tests and examinations, grading homework or tests, and administrative duties. The TAs were asked to estimate what percentage of their time they spent on each activity. The answers were very instructive and not necessarily what we expected.

2. Questionnaires were administered orally to department chairs and other faculty involved in TA supervision. These questions were used as a springboard for a less structured interview. Essentially, faculty were asked to outline the TA policies in their respective departments, both as regards TAs in general and FTAs in particular. They explained the basic duties of TAs and any differences in the demands on foreign and NS TAs, between new and experienced TAs. They were also asked how much responsibility the TAs were given and the expections of their departments. Of special concern was responsibility for setting grading policy and for assigning the grades themselves, making up exams and deciding what material to cover. Communication between TAs and faculty course coordinators was also discussed. Finally, the faculty members were asked to describe any specific problems they had had with FTAs and to indicate what qualities they felt were most valuable or important in order for a TA to be successful.

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3. Detailed observations were made of recitation classes, laboratories and office-hour sessions in a range of departments. These were led by both NS and foreign TAs. The NS TAs who were observed were experienced and were suggested by their graduate chairs as successful and popular TAs. The object of these observations was to describe the linguistic, discoursal, and interactional behavior of the TAs. Several of these classes were audiotaped for more detailed study.

4. Written material which had either been graded or created by TAs was collected in order to determine the kinds of writing TAs use in the course of their work, including tests, homework, lab reports and procedures, and syllabi.

III. Findings

The results of the questionnaire indicated that there was a great deal of variation in TA duties depending on the individual department. In many cases, new TAs, particularly FTAs, were not selected as classroom teachers. This was left to TAs who had already been at Drexel for at least a year. Frequently, TAs were lab instructors and graders. Grading was apparently limited to marking answers right or wrong from a prepared grade sheet and occasionally going through the students' work to

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determine where the student might have gone wrong. In very few instances were extended comments called for. In general, aside from grading duties, office hours and classroom/lab activities appeared to be the most important. However, the role of the TA in these settings is a somewhat limited one. For instance, the TA almost never presents information for the first time. In recitation sections, the TA has two basic responsibilites: first, to go over homework problems from the syllabus, and second, to clarify any questions the students may have from the professor's lecture, and to try to relate the lecture material to the practical applications found in the assigned problems. Unlike in the social sciences or humanities, the TA is **not** expected to lead discussions or to digress from the the exact syllabus, as was seen in observations of TAs in these fields carried out at the University of Pennsylvania The first responsibility--that is, discussing and explaining homework problems--is by far the more important of the two.

The one exception to the rule that the technical TA never presents new information comes in the laboratory. In this instance, the theory behind the experiment should not be new to the students, but the experiment itself and the equipment may be unfamiliar to them. The TA may be expected to perform demonstrations for the class, to explain the

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equipment and the procedures for using it. Stating guidelines for safe

handling of lab equipment is another important responsibility. In addition,

he or she will generally try to link the purpose of the experiment to the

lecture material. This is usually done in the beginning of the lab session

and any further interaction and explanations are on an individual or small

group basis.

In light of these findings regarding the duties and responsibilities of

TAs, we suggest several skills and strategies which TAs will need to be

effective in the lab or classroom. The following is a brief description of

the linguistic and communicative behavior of effective TAs as well as

some sources of the communicative breakdowns of the less successful

TAs, particularly FTAs. Our analysis is based on direct observation of NS

TAs and FTAs.

1. Linguistic proficiency

Assuming that a FTA has mastered the grammatical system of

English, the problem which needs the most attention is that of

pronunciation. This is a broad term which includes the sound system of

English, as well as prosodics such as intonation, rhythm, and stress. There

are specific areas where FTAs often tend to run into trouble. Frequently,

they tend to simplify consonant clusters, particularly at the ends of words, leaving their students to guess about the missing, often semantically important endings. There are also certain sounds which are particularly difficult for some speakers such as *th* and *l* and *r.* In addition, some of the apparent slurring or "swallowing" of speech which students complain of is due to overly rapid speech and could be alleviated simply by better pacing. The rest of this presentation will not focus on specific problems with the sound system of English. It is not because we think it is unimportant. On the contrary, any FTA preparation course will have to devote a great deal of time and energy to improving intelligibility. Because pronunciation is frequently subject to fossilization, however, there are other, perhaps more efficient, ways in which we can help FTAs improve their teaching.

On top of pronunciation problems, FTAs often have difficulty with the stress timing of English. Many of the first languages of these FTAs, such as Chinese, Japanese, and Spanish, are syllable-timed. (The same is true of some international varieties of English, such as that spoken in India. Accordingly, students may even complain about Indian TAs who are highly proficient in English.) In syllable-timed languages, every syllable is given equal time and stress, giving speech a stacatto sound. In English, by

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constrast, stress and duration are uneven. Thus stress-timing is an important indicator to the listener regarding the relative importance of the elements in an utterance. In general, English content words are given the greatest stress and are longer. Function words are often reduced. When these cues are missing, the students may have difficulty in sorting out the information presented by the FTAs. For instance, if FTAs fail to reduce function words or to stress certain content items, misunderstandings may result.

In addition to the problems of stress and timing, NNSs must also master intonation patterns. These are important as indicators both of semantic content and of speaker attitude. Intonation marks utterances as questions or statements, and can also be used to highlight important information as well as contrasts. It can also brand the TA's speech as assertive, tentative, abrupt, effeminate, etc. If an FTA is has not mastered these intonation patterns, he or she may be unintentionally conveying a false personal impression as well as distorted information.

2. Discourse strategies

Above all, it important for TAs to make explicit what it is they are trying to get across to their students. Unsuccessful TAs often tend to stray from the point, bring in extraneous information, or try to do too

many things at once. Disorganization is particularly damaging to the

performance of FTAs, since students often have difficulty in following

their speech in the first place. In contrast, successful TAs separate

definitions from explanations of processes, summaries, recapitulations,

etc. Because FTAs often have difficulty in presenting and reviewing

material, they may want to accentuate or exaggerate the techniques of

successful NS TAs. The following are a few of the discourse strategies

which were observed in the classes and labs of experienced NS TAs.

A. Repetition

Frequently, it necessary to repeat information several times in the

course of a presentation, especially if the ideas are relatively new to the

students. Successful TAs use **exact and approximate repetitions**

extensively in their explanations. It is particularly helpful to the students

if these repetitions are presented within "**frames**"--that is to say, some

cue should be given that a reformulation of information, a definition, etc.

is about to be given. Examples of such frames are "in other words," "let me

run through this one more time," and so on. There were substantially

fewer of these discourse frames for repetition in the speech of FTAs than

in that of NS TAs. Increasing the use of this device could be particularly

effective for FTAs since students may have had difficulty understanding

their explanations the first time around because of linguistic interference.

B. Summarizing

Much of what is taught in TAs' classes and labs is connected or supplementary to professors' lectures. It is therefore essential that TAs make an effective connection between the material presented in lectures and that presented in their own classes. Good TAs begin their lessons by **summarizing** what has happened in previous lectures, recitations, homework problems, etc. before moving on to new material. Again, in the case of FTAs, this needs to be done overtly and explicitly in order to compensate for any other communication problems. There are many ways of launching summaries, such as "as we said last time" or "just by way of review," followed by "If that's clear, I'd like to move on to some new problems" or "This brings us to today's topic," etc.

C. Refocussing

If and when new information is presented, or even when old information is repeated, it is helpful if TAs, through **discourse cues**, focus the students' attention on important points. This is especially important if the FTA's mastery of the stress and intonation patterns of English is weak. The TA may use phrases such as "the point of all this is.." or "what you really need to remember is..." If it is necessary to backtrack

or repeat, this can also be signaled through such discourse cues as "Let's go back and look at ..." and so on. Observations of FTA classes suggest that FTAs use these discourse markers far less often than NS TAs, though of course they need them more.

D. Marking steps

Discourse cues can also be useful in explaining processes, whether in the laboratory or in problem-solving. FTAs may increase the clarity of their presentations by first decomposing the process in their own minds and then explicitly **marking the steps of the process**. Frequently, the FTAs who were observed made too many assumptions regarding what the students knew or could process quickly. Within limits, the more explicit the explanation and the more a TA broke down the components of a process or experiment, the more successful he or she was in the classroom. Without being able to pinpoint this specific technique, both the students and supervising professors maintained that the TAs who used these techniques were the best teachers. The students simply said that they "were better at explaining."

3. Non-linguistic strategies

One final method which significantly improved the clarity of TAs' recitations and lab demonstrations was the use of **supplementary**

visual aids. These ranged from the simple use of the blackbaord for explanation to carefully prepared handouts or overhead transparencies. In general, it is safe to assume that TAs who have difficulty making themselves understood can improve their performance by reinforcing it visually. It has already been noted that **redundancy** in speech may aid comprehension. This redundancy need not be limited to the speech channel. By providing **multiple input** which does not depend on speech, FTAs may further enhance student comprehension.

Important information should always be written on the board, but in conjunction with speech. Successful NS TAs rarely engaged in silent writing, while this practice was frequently observed in FTA classrooms. One medium should reinforce the other. Moreover, central points can be underlined or boxed. Graphs are also helpful in illustrating problems which are difficult to explain orally.

4. Interaction in the classroom

There was a clear, observable difference between the FTAs and students and NS TAs and students. The NSs used more **humor** and **encouraged interaction**, while the FTA classrooms evidenced mainly one-way communication. The NS TAs engaged their students in social as well as class-related interaction, asking how they were getting on, joking

with them and so on. Student participation was far greater in the classes led by NSs. There appeared to be a certain amount of hostility, or at least a sense of distance, from the students toward the FTAs, particularly those with the greatest language difficulties. It is important to stress substantive ways of improving **teaching performance** in addition to encouraging an affective environment which may contribute to better communication. Of course, there will always be those students who, when faced with as "funny accent," will "not understand a word the TA says" in spite of any effort by the FTA to improve communciation skills.

One way in which FTAs may improve interaction in the classroom or lab is to make serious **checks for comprehension** and to provide frequent **positive feedback**. During observation, many FTAs made attempts at comprehension checks, but these were largely limited to quick "OK?s" and little time was given for student response. FTAs may also ask too many questions too quickly. They need to **wait for student response**, although this may sometimes come slowly. By waiting for answers, the TA may be able to build the confidence of the students. An additional benefit is that such questioning is an effective way of determining what it is that the students do not understand. Positive feedback and reinforcement were found to be an important aspect of the

successful TA's teaching ability, and one which was seldom seen in the FTA classroom. Successful TAs praised students for correct answers and managed to parlay wrong answers into possible correct answers so that their students could save face. Typically, these are called "yes, but..." responses, where the TA may accept part of the response but uses it to lead into a more accurate answer.

In general, FTAS appear to take a more dominant role in classroom management, whereas NS TAs allow their students more latitude. In NS TA-led classes and labs, students frequently answered their own as well as other students' questions. This participation was actively encouraged by the TA. In FTA classes, in contrast, the TA was much more the provider of information as opposed to a facilitator.

5. Cultural issues

Most of the FTAs who were observed in classes and labs had already been in the United States for some time. As a result, the most jarring clashes of culture may have already been ironed out. In general, there were not many observable communicative impasses which seemed to be the result of cultural differences, such as a TA demanding the same behavior of American students that he or she would expect from students in his or her own native country. Other issues of cultural differences

which are frequently cited as problematic, such as sense of time, and

proxemics, also did not appear to present major problems.

One difference between FTAs and NSs which did become apparent

under observation was in the area of **eye contact**. FTAs spent much more

time talking to the blackboard than did NS TAs. Successful TAs made eye

contact with individual students to check for comprehension, whereas

FTAs made more cursory passes across the classroom without focusing on

specific students. The NS TAs used eye contact as a method of drawing

out students who had not understood. FTAs generally assumed

comprehension to a greater degree.

Several of the professors interviewed did note possible

cross-cultural problems with incoming FTAs, both in their roles as TAs

and as students. Some FTAs, especially those from countries with sharply

contrasting educational systems, had difficulty **assuming authority** in

the classroom and working with a **minimum of supervision**. The latter

applies both to their responsibilities as TAs and to their own research.

These same TAs also had some difficulty in dealing with figures of

authority. They appeared overly deferential and their professors viewed

this behavior as detrimental to the relationships necessary for

collaborative research. Their behavior is probably related to their

experiences in universities where professors are treated as gods, and are not to be questioned. Finally, some professors reported that there was lack of cooperation in carrying out more menial tasks, such as cleaning up the lab or setting up experiments, perhaps because in the FTAs' own countries, menial work is considered beneath the dignity of a student. This attitude potentially impinges on their broader performance as TAs, since they may view assisting students outside of class-time as not with'n their job description either.

These findings offer, we think, a sound basis for the development of a training program curriculum as well as training materials. It is clear that although the much denounced culprit *pronunciation*is very important and needs to be stressed in any FTA preparation course, there are other aspects of communication in the classroom, primarily *teaching*skills, which are also essential to master in order to become a successful TA. In developing a program, it is important to determine what kinds of activites the TAs will be engaged in and what kind of responsibilities they will have. They may not match exactly what was found for Drexel. At the more micro-level however, it is probably safe to assume that many of the skills and discourse strategies, as well as the problem areas, such as linguistic

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interference, will be similar at other universities.

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