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Developing Teaching Skills During Graduate Education

Robert M. Diamond and Franklin P. Wilbur

Syracuse University

Teaching is a lifelong art...that involves continuous learning not just for the student but for the teacher as well...it is an art that can be taught and that can develop through inquiry into one's own teaching.

Joseph Katz and Mildred Henry (1988, p. ix)

No group is more full of myths about teaching, more reluctant to admit that there are good teachers and bad teachers, and more resistant to the notion that teaching skills can be acquired than teachers themselves.

Kenneth E. Eble (1976, p. 9)

Approximately 75,000 new faculty will be hired by American colleges and universities in 1990, according to a report published in 1986 by Bowen and Schuster. By the year 2000, this number will have more than doubled. Estimates indicate that, once hired, these teachers will spend more than half of their professional lives in teaching-related activities: formal instruction, advising, and grading. Despite the importance of providing skilled educators, very little attention has been directed, in the past, to this important activity. Unfortunately, too many faculty have entered the profession with inadequate training for the vital instructional roles they must assume. Graduate education has an unprecedented challenge to ensure that this generation of future professors will receive the best possible preparation for teaching. Teaching Assistant (TA) training programs show promise of meeting this challenge. For the purpose of this paper, TA refers to graduate teaching assistant.

Ernest Boyer in his book *College: The Undergraduate Experience in America* (1987) reports on his observations of a wide range of college classrooms. "In all too many classrooms, we found an absence of vigorous intellectual exchange, a condition for which faculty as often as students bear responsibility" (p. 5). He later goes on to state that "all too frequently it is assumed that anyone with an M.A. or Ph.D. can teach.... Teacher preparation should begin in graduate school as graduate assistants work with mentors who carefully critique their work. They should be helped in their teaching procedures and be trained to give helpful oral and written comments in anticipation of their work with students later on" (p. 156). The logic of Boyer's argument is so clear that one wonders why the academy failed so long to see the opportunity to instruct TAs in the craft they were asked to practice. In a survey of more than 1300 teaching assistants at eight universities, Diamond and Gray (1987) found a similar view of their preparation to teach from the TA's perspective: one in four complained of inadequate guidance and poor supervision (p. 41). More than 50% desired more preparation in evaluating student performance, lecturing, conducting discussions, using media, preparing tests, and managing time (p. 52). As a result of these reports and in response to an increasing number of public articles on the use of unprepared teaching assistants and the poor quality of university training in general, some universities have put in place a wide range of models designed to improve college teaching, and they are beginning to show their effects within the academy.

The Teaching Background of New Faculty

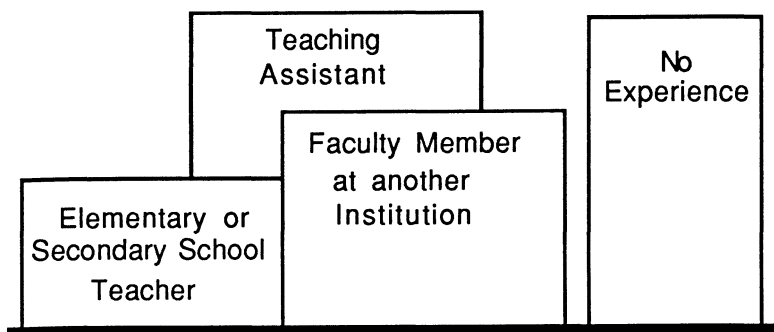
Most new faculty appointees are not new to teaching. A recent study of new faculty at Ohio State University (Chism, 1989) showed that 93% of the 114 newly hired faculty surveyed had taught previously, that 30% had held a tenure track position at another college or university, and that over 50% had been teaching assistants earlier in their careers. The new faculty surveyed showed a range of earlier teaching experience averaging from one to five years. While the teaching experience profiles of new faculty can be expected to vary from institution to institution and by discipline, as reported by Fink (1982), about 75% of all hires at four year and graduate institutions have taught previously.

A significant number of newly appointed teaching assistants also have had prior teaching experience. In their study of teaching assistants, Diamond and Gray (1987) reported that 44% of the 1357 teaching assistants had taught previously (13% had had experiences at the K-12 level

and 31% at a college or university). Furthermore, nearly 30% of the teaching assistants reported some formal training in teaching. Thus, whether we are dealing with new faculty or new teaching assistants, we must assume that a significant number have already had some teaching experience.

DIAGRAM 1

Where New Faculty Receive Their Teaching Experience



Although the backgrounds of new faculty vary significantly in terms of their teaching experience and the pedagogical training they have received, we can make several observations:

1. Most have been teaching assistants. Diamond and Gray (1987) reported that 75% of the teaching assistants in their study planned to teach and, with the exception of architecture (40%), communications (48%), and law (17%), over 50% of the respondents in every discipline planned to teach after receiving their degrees.
2. Approximately one in three had taught previously at another college or university.
3. Depending on the type of institution, between 10% and 30% will have taught in the public schools and have received formal training in teaching, usually as undergraduates.

Administrative Options

Administrators concerned with improving the teaching of those graduates who are planning careers in higher education have three basic options available to them: (1) developing a significant training program

for their teaching assistants, (2) providing all graduate students with either experience and training in teaching, or (3) providing all graduate students with the option of selecting a dual major in teaching that would provide these experiences.

Regardless of the option selected, the general range of experience and the content of the program itself will tend to be identical in all important aspects. The question, therefore, is which option is most cost effective and most easily implemented. We believe that focusing on the training of teaching assistants is the most reasonable of the three approaches and the one that will be most easily accepted by the academic community.

If some departments will not support their teaching assistants' participation in one- or two-day workshops, they are unlikely to support a program that would require that all graduate students have experience in teaching. Furthermore, there are students who simply do not now or ever plan to be in the teaching role, and to require such a program of all students would be unrealistic. In addition, a program requiring such experience or an additional major would either add to the overall degree requirement or reduce the number of discipline-related courses they could take. This approach, we felt, would not be supported by a large number of departments.

While we will describe examples of teacher training programs that exist, the best approach, we believe, is to provide experience and support in teaching for every student who plans a career in teaching and ensure that this program is both comprehensive and continuing. This also requires that academic departments refrain from "rewarding" their best students and teaching assistants by moving them from classroom to research assignments.

Focusing on the training and support of teaching assistants can have a number of clear advantages:

1. The program can, by taking advantage of resources already committed to the purpose by individual schools, colleges, and departments, be implemented at far lower cost than would be required by implementing a new program. It builds upon activities which already exist.
2. Support for the program from various academic constituencies (graduate or undergraduate), while at times slow, can be developed.
3. It can have a significant and immediate impact on the quality of undergraduate instruction at the institution.
4. The program can be developed jointly with the academic depart-

ments to ensure that the content of the sessions and the experiences of each teaching assistant are adjusted to the discipline. The most successful programs are, in fact, a combination of institution-wide and discipline-specific activities with the latter offered by the department in which the teaching is done.

Experience at a number of institutions has shown that to be successful a teaching assistant program must have four characteristics. First, it must be **required** of all teaching assistants; second, it must be continuous (providing support as long as the individual has teaching responsibilities); third, it must begin prior to the start of the first teaching assignment; and fourth, it must combine elements of both all-institution and departmental activities and responsibilities.

Formal Instruction in Teaching

Currently, programs that formally train future college faculty may be classified under three general and somewhat overlapping approaches: courses in college teaching usually offered by schools or colleges of education; courses offered by individual departments, schools, or colleges for their own teaching assistants; and multidisciplinary programs sponsored by schools, colleges, or a central unit of the institution.

Each approach has strengths that are attributable to its specific emphasis and structure and that directly result from the institutional need that gave rise to the model. The instructional programs cited are strong, active, and successful, and to endure, directors have been allowed to identify potential problems and make the necessary adjustments as the programs operate.

Courses Offered by Schools or Colleges of Education

Least common of these approaches are formal courses offered by schools of education. Excellent examples are offered at the University of Nebraska, Colorado State University, and Texas A & M University.

These formal courses in college teaching usually include students enrolled at the masters or doctoral level and serve many departments across the institution. A study of 195 students enrolled, over several years, in a course in college teaching at Texas A&M University showed, for example, that masters students outnumbered doctoral candidates and that although 51 departments were represented, students in the College of Education accounted for almost 50% of the total. Two departments

alone—Curriculum and Instruction and Educational Administration—accounted for 38% of all enrollees (Johnson, 1989). This pattern does not appear to be unusual.

One factor that may explain this imbalance is that many academic departments outside the School of Education do not accept these credits toward the degree. In these departments, only courses directly related to the content of the discipline or the skills needed to complete the dissertation requirement tend to be accepted. In some instances, graduate students report that their enrollment in courses in college teaching is actively discouraged by their academic advisors.

Somewhat more common are courses on teaching offered by academic departments for their own teaching assistants. Usually required, these courses normally focus on the specific instructional needs of the discipline and the teaching assignments of the participants. Examples of such courses and the departments that sponsor them are Indiana University (French), The Ohio State University (physics, womens' studies, languages), Purdue University (physics), Syracuse University (science teaching), University of Missouri (mathematics), University of Wyoming (mathematics), Washington University, Saint Louis (romance languages), Youngstown State University (English).

Teaching Assistant Training Programs

Teaching assistant training programs are so highly individualized that they cannot be characterized as adhering to any single model. There are almost as many varieties in the types of support provided to teaching assistants as there are institutions offering them.

In 1986, Joan L. Parrett surveyed 36 teaching assistant programs in institutions throughout the United States. Of this group, only five (14%) were university-wide programs with the remaining sponsored by individual departments, schools, or colleges, and of these, less than 20% of the institutions reported formal courses in teaching designed primarily for teaching assistants. Nearly half of these courses were offered on an interdepartmental basis by schools and colleges.

However, in the mid-1980s most research universities were doing little to formally support the training of their teaching assistants. Increased concern about the quality of undergraduate teaching and the use of teaching assistants led to the National Conference on the Employment and Education of Teaching Assistants at Ohio State in 1986 and follow-up meetings at Syracuse University in 1988 and the University of Washington in 1989. A growing number of institutions are initiating programs or

expanding their efforts to improve teaching assistants' training with a significant move to formal, campus-wide, pre-semester programs.

In her study, Parrett found that the programs ranged from one or two days prior to the semester to weekly one- to three-hour meetings (usually a formal course) that run through the semester. Problems of housing and scheduling were reported to be the main roadblocks to more substantial programming at the time of her study. Attendance was required in approximately one third of the programs, and most of the pre-semester programs focused on international teaching assistants and their unique requirements. On a number of campuses, if any program existed, it tended to focus on international teaching assistants and the problems of language and cultures.

While TA training programs may themselves be well conceived and designed, many teaching assistants report that they receive no supervision or guidance from their departments once the semester begins. Diamond and Gray (1987) reported that support seems least evident in the Arts and Sciences, where one of four teaching assistants complained of inadequate guidance.

Program Content

The content of each of the three basic types of programs reflects the special interest of the sponsors, but there is significant overlap between and among them (Diagram II).

For example, an individual department may include instructional theory and institutional policies in the training program. Predictably courses on college teaching offered by schools or colleges of education are generally broader in focus than the other two types of programs. Such topics as a historical overview of college teaching, student development, course and curriculum design, models of learning, instructional theories, writing objectives, mastery learning, alternative instructional strategies, and research on teaching are common to courses of this type.

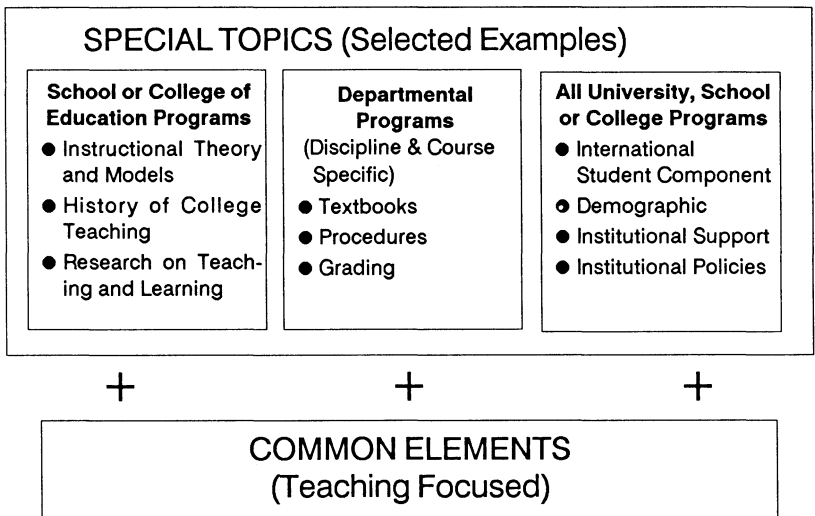
Formal courses offered by individual academic departments overcome the problem of credit because the same department must decide if credit is to be awarded. Such courses are usually found in departments that have large introductory courses designed to meet specific needs of the department taught by graduate teaching assistants. The prime purpose of these departmentally run courses is to prepare the teaching assistants to teach a specific course uniformly (e.g., same materials, exercises, grading standards, assignments, and exams). For example, a course on teaching offered by the Linguistics Department at Ohio State

University includes such topics as “English Sound Systems,” “Lecturing Language,” and the “Language of Analysis and Synthesis.” At Indiana University, teaching assistants in the French Department are required to take a course on problems and methods of college French teaching. This includes, in addition to general sessions on teaching and testing, an overview of approaches to foreign language teaching and a review of the theoretical bases underlying current practice in the field. Not unexpectedly courses offered by science departments tend to stress the methods and content related to laboratory instruction.

Centralized teaching assistant programs also have unique characteristics. Most obvious is the international component that generally includes, in addition to the emphasis on improving language skills, such topics as information about the American university, American slang, cultural differences and culture shock, and the role of the teaching assistant, teacher, and student in American universities. Many of these broader programs also spend time on such basic topics as shopping, banking, and social security. They usually include, for all teaching assistants, sessions on time management (for both student and teacher); institutional rules, regulations, and resources; structure of the university; demographic backgrounds of its students; and insurance.

DIAGRAM 2

The General Content of Teacher Training Programs



Common Elements

Although programs in the three areas differ, well over 50% of their total content comprise common, teaching-related topics such as evaluating yourself as a teacher, evaluating your course, lecturing, leading classroom discussion, dealing with common problems, using media, preparing tests, using resources, time management, and counseling and advising. These topics form the very core of these programs. They also tend to focus far more directly on teaching and its related functions than on the unique elements within the three categories. The common elements are also the most difficult topics to teach, and few faculty are prepared to teach them.

The outstanding programs described in the case studies that follow show particular sensitivity to the institutional concerns of the universities that developed them. As Larry L. Loehrer wrote:

The institutional culture may be the most critical factor in determining the nature and location of a (TA) training program because it permeates every facet of the institution: resources, goals, structure, etc. ... I would argue that no program that openly violates or conflicts with the cultural norms and values of the institution will last for very long nor have much impact while it endures. (1978, p.106)

In this section of the article, we have selected examples of four established TA orientation and training programs that represent different approaches, whose impact and endurance testify to their appropriateness and institutional support, with activities and services offered at differing times throughout the calendar year. Some institutions require participation by all new TAs; on other campuses, participation is encouraged but voluntary. The case examples provided are all-university (or multi-department/school/college) programs with varying degrees of departmental involvement and responsibility. The strength of many of these programs lies in their focus on generic training skills, their sense of all-university commitment to teaching created by a centralized program, and the commitment to working closely with academic units to examine the specific techniques required for effective teaching in the disciplines. In most instances, the administration location of the activity was more the result of individuals recognizing and willing to address the problem than of long-term administrative planning.

Case Studies

The Ohio State University (OSU)

First coordinated in 1982 by the College of Education, with funding through the Office of Academic Affairs, the University Teaching Associate Workshop of The Ohio State University is now housed in the Center for Teaching Excellence and currently serves approximately 300 TAs annually. Recently shortened from five half-day to two full-day sessions, the general workshop program includes welcomes from key university administrators, an overview of important institutional policies and procedures, faculty presentations of the role of the TA at OSU, and a discussion regarding the special challenges of teaching within a culturally diverse institution. The intensive workshops for new TAs are offered to academic departments with three options for participation by their TAs. The basic difference between the options is the number of sessions the individual TA is asked by the department to attend. The option plans allow for departments who wish to take the responsibility for particular aspects of the training to do so (e.g., grading and evaluation, course design and syllabus construction, leading effective discussions, and lecturing) or to take advantage of centrally-offered programs and services. To meet specific needs of the disciplines, staff from the Center for Teaching Excellence provide departments with assistance in preparing materials, modules, and specific instructional experiences, including microteaching. Advice and preparation for particular teaching assignments, including teaching in the performing arts, laboratory and clinical settings, and writing programs, require specific instruction that can be provided by either the individual departments, the Center for Teaching Excellence, or the combined efforts of both. In addition to new TAs, the workshops are open to experienced TAs who feel a “refresher” course in any part of the orientation would be useful. Many of the workshop activities are lead by faculty and experienced TA teams who serve as mentors and role models.

Other services offered to the Teaching Associate at the Ohio State University include:

- **The Teaching Associate Forum** is a series of panel discussions dealing with timely and important issues on university teaching and graduate study. The forums also provide an opportunity for TAs, top-ranking university administrators, and experienced faculty to talk informally and to socialize in a relaxed setting.
- **Individual consultations** by a member of the Center’s staff are available to TAs to discuss any aspect of their teaching assignments.

- **Microteaching** involving videotaping and critique of an actual or simulated teaching situation offers TAs a chance to view their teaching from the students' perspective. Observations and feedback regarding a TA's teaching are also offered without the use of video technology.
- **Custom-Designed Workshops** can be offered at the request of departments or any group of TAs with a special need or interest. Topics have included "Teaching for Black Student Retention," "Strategies for Active Learning," and "Leading an Effective Discussion."
- **International TA Forums** are held four times a year to address the particular problems ITAs are facing in the classroom. Responsibility for oral communication skills assessment and remediation is handled through the Spoken Language Program of the English as a Secondary Language Office at OSU.
- **Print materials** are available in a library set up to serve TAs. In addition to a variety of books and journals, a Teaching Handbook, an Instructional Guidebook, and a Sourcebook on Teaching Large Enrollment Courses are examples of publications that provide useful information on classroom instruction and management to beginning teachers.
- And finally, the Center offers a variety of **teaching evaluation services**, including assistance with the design, administration, and interpretation of custom instructional evaluation forms and use of other effective assessment techniques.

For additional information contact: Dr. Nancy Chism, Faculty and TA Development, Center for Teaching Excellence, The Ohio State University, 20 Lord Hall, 124 West 17th Avenue, Columbus, Ohio 43210-1316. Telephone (614) 292-3644.

Syracuse University (SU)

In 1987, Syracuse University designed and implemented an all-university orientation and training program required of all graduate students receiving TA appointments. The University employs approximately 750 graduate students as TAs; roughly one-third are international students. The Teaching Assistant Program is administratively located in the University's Graduate School, is a year-round program, including a 16-day residential summer program, and has as its broad goals the following:

1. to enhance the overall graduate experience, especially by reducing

- the insularity of graduate study and encouraging interactions among TAs across all academic departments;
2. to improve the quality of undergraduate instruction by enhancing the teaching skills of TAs;
 3. to provide international teaching assistants with an orientation to higher education in the U.S. and, when needed, to provide them with intensive instruction in spoken English;
 4. to orient TAs to the university, its services, and resources;
 5. to have faculty and experienced TAs serve as mentors and advisors to new TAs and assist TAs in balancing their responsibilities for both graduate scholarship and undergraduate instruction.

The orientation program, which completed its fourth cycle during the summer of 1990, has three major components: (a) a six-day international program consisting of language testing and instruction, practical assistance from the Office of International Services (finding housing, completing paperwork, and attending general sessions on topics such as *Teaching American Students, Characteristics of SU Undergraduates, and Culture Shock*); (b) a seven-day program comprising large-group seminars led by outstanding Syracuse faculty and small workshops led by Teaching Fellows (successful, experienced TAs). The faculty address general topics such as *Lecturing, Leading a Discussion, Using Media, and Academic Honesty*. Teaching Fellows videotape mini-lectures delivered by the new TAs and then lead small group members in a supportive critique of the videotapes. Other small group exercises offer new TAs opportunities to lead a discussion group, practice classroom questioning techniques, and discuss typical classroom problems faced by new TAs; (c) a three-day departmental Orientation, during which TAs are introduced to the graduate and undergraduate curricula, departmental practices, and their assigned teaching duties. Following the orientation, the University offers an oral communications workshop for international TAs who need additional assistance in improving spoken English.

Perhaps the key element for the success of the all-university Orientation has been the employment of 24 teaching fellows, carefully selected on the basis of outstanding achievements both as graduate students and teachers. The fellows are representative of teaching assistants at Syracuse in terms of discipline, nationality, and sex. The mentoring and peer support that fellows provide to new colleagues is the principal reason for the heightened confidence about teaching reported by new TAs following the orientation (and just prior to the start of classes).

A year-round effort, the Teaching Assistant Program also initiated **Outstanding Teaching Assistant Awards** (given annually to 30 TAs) and a **mini-grants** program to recognize achievements and motivate the development of teaching excellence. Additional services to TAs have also been initiated. A **Teaching Assistant Newsletter** is now published regularly, and **Seminars and Colloquiums** on topics of special interest to TAs and faculty are offered.

Important to the continuing success of the program is on-going program evaluation to determine immediate and long-range impact, provide data for program revision and improvement, and assist in describing and documenting the program's activities.

For further information contact: Dr. Leo Lambert, Director of the Teaching Assistant Program and Associate Director of the Graduate School, 111 Tolley Administration Building, Syracuse University, Syracuse, New York 13244. Telephone (315) 443-4492.

University of Washington (Seattle)

With approximately 200 international students among the nearly 1000 teaching assistants at the University of Washington, the Center for Instructional Development and Research has administrative responsibility for the International Teaching Assistant Program. Entering its fifth year in the fall of 1989, the program is designed to assist International Teaching Assistants (ITAs) with all of the challenges of teaching, living, and pursuing a graduate degree. The program emphasizes English for instructional purposes, instructional skills, and intercultural competency. While the centrally-administered International Teaching Assistant Program is now mandated for ITAs, it is important to note that all of the services offered by the Center for Instructional Development and Research, including all of the many departmentally-centered support services, are available to domestic individuals on a voluntary basis. These services have been most successful, in large part, because attention has been paid to the needs of individual TAs within the context of their academic disciplines. Underpinning the services provided by the Center are two major assumptions: the first is that teaching is a highly complex process; the second is that teaching is very much context bound (i.e., within the culture and values of the University of Washington and the context of the content areas and individual academic department). Following are brief descriptions of some of the current services and activities of the program.

A **pre-fall workshop** (approximately 40 hours of instruction) is offered to new ITAs over the course of a week focusing on instructional

issues and the undergraduate culture at the University of Washington. Topics include teaching and learning in the U.S., managing the first day of class, asking and responding to questions, planning and delivering a presentation, and managing conflicts with students. Experienced TAs, faculty members, and undergraduates participate in panels, presentations, and group discussions. Workshop participants view video tapes of experienced TAs and ITAs and are actively involved in microteaching exercises. The Pre-Fall Workshop in 1988 involved 42 participants from 21 academic units.

Seminars are provided throughout the academic year addressing such topics as motivating students, grading lab reports, and using instructional resources, and individual consultations are arranged to address issues relating to instruction, language, and culture.

Language tutorials are offered by specialists to facilitate English language fluency in instructional contexts. Furthermore, a careful procedure for assessing the oral English proficiency of those international graduate students recommended for teaching assistantships has been established. During the period some TAs are completing required or recommended language courses, they usually are assigned to duties that do not include classroom teaching.

Observations of ITAs in their instructional settings are conducted at least twice each quarter, and feedback regarding progress is provided through individual consultations.

For further information contact: Dr. Debra-L Sequeira, Coordinator, International Teaching Assistant Program, Center for Instructional Development and Research, University of Washington, 107 Parrington, DC-07, Seattle, Washington 98195. Telephone (206) 543-6588 or 0699.

University of California, San Diego (UCSD)

With roots dating back to 1974, the University of California at San Diego has demonstrated a strong and sustained commitment to nurturing teaching assistants as instructors and graduate students. San Diego's Teaching Assistant Development Program (TADP) begins with a series of two introductory workshops, required for all new TAs during their first semester of teaching. The workshops, which focus on general teaching skills in discipline-specific terms, are for the most part departmentally oriented and jointly planned by the staff of the Center for Teaching Development and a faculty member or experienced TA for each individual academic unit. Also part of the basic workshop program are

sources of feedback on the new TAs' classroom teaching in the form of student questionnaires, classroom observations by TADP staff, and video taping of classroom activities. Assistance is provided to TAs by program staff to help interpret data and plan for teaching improvement. Nearly 300 TAs participated in training activities during the 1988-89 academic year.

The TA Development Program works continually with academic departments and individual faculty to meet the perceived teacher-training needs within the disciplines. In addition to the basic workshops, assistance to departments may include the development of demonstration video tapes showing teaching roles in labs and recitation sections, consultation to experienced TAs responsible for TA training in their departments, preparation of teaching handbooks for use in department training activities, language skills assessment for international TAs, and the development of special programs and materials tailored to the needs of the academic units.

While participation in the basic workshops is required of all new TAs (and encouraged for experienced TAs), recent increases in funding have enabled the TADP to initiate a number of new programs and services including the production of a broad range of **demonstration video tapes** for departmental and general university use, on-going **assistance and consultation** on classroom teaching to experienced TAs, the publication of a quarterly **Newsletter** for all TAs and faculty at UCSD, intensive seminars to develop intensive **language/cultural awareness/teaching skills**, and **general assistance** for international TAs.

Other continuing services of the UCSD TA Development Program include assistance to graduate students who anticipate teaching careers in the preparation of a portfolio to include faculty recommendations, student evaluations, and other data. The program also continues to invest considerable energies in various research and evaluation projects designed to improve training techniques and to identify teaching methods of greatest utility to classroom instructors. Research reports have been produced on topics such as questioning techniques, small-group learning formats, science laboratory teaching, scientific problem-solving, teaching writing in non-writing classes, teaching techniques in studio and theater classes, and using teaching objectives in class planning. Program evaluation efforts include assessments by program participants of the utility of their workshop and consultation experiences, reviews of program services by outside specialists, and controlled comparison studies of student ratings of trained and untrained TAs.

At San Diego, the departmentally-oriented thrust of the Teaching Assistant Development Program has enjoyed long-term success, and the prospects for continuing success and enhancements of the model seem bright. This program is administered out of the Center for Teaching Development, but its services are closely integrated with the academic units.

For further information contact: Dr. John Andrews, Director of the Center for Teaching Development, University of California, San Diego, 220 HUL, B-003, La Jolla, CA 92093. Telephone (619) 534-6767.

Where to Begin

The success of programs like those described in our case studies illustrate that some techniques that are applicable to the needs of future college teachers can be taught. Lee S. Shulman, in his remarks before the 1989 National Conference of the American Association of Higher Education, placed pedagogy in its broader perspective when he said:

Future teachers are, I must remind you, not just those who are going to be in K-12. Future teachers are those whom you see as your best students, whom you dream will get a PhD and then do what? Teach. And they are those who are going to go into business and industry and will spend a great deal of their time mentoring other people in their work places as teachers; they too, are in the midst of a teaching environment. If we don't meet this challenge of taking the pedagogy seriously, I fear that fifty years from now people will look back on our era as the period in the late 1980s and early 1990s when we had the opportunity in less than a decade to educate two-thirds of the teachers who would teach for the next thirty-five years, the period when we had this extraordinary opportunity to make a difference in education.

Even though specialists in the development of college teaching may be in limited supply, programs like the ones reviewed above suggest some available resources and well-tested techniques that can be used effectively in teaching assistant and new faculty development programs. Among them are two that can be used in a modest beginning:

Microteaching uses video playback and review, proven extremely effective in teaching preparation and lecturing and discussion skills. Following a brief introduction to the technique, participants, in small groups, record a lecture and discussion and then play back the tape for review. In this approach the small group itself often serves as the class. Video taping of regular classrooms for later playback and review with a

professional staff member or another faculty member has also been proven effective.

Trigger Tapes, short one- to two-minute vignettes of common occurrences, are an extremely effective technique for promoting discussion. For example, a recent series produced by the Center of Instructional Development at Syracuse University covered such diverse topics as student apathy, subjective grading, student prejudice, and an interpersonal conflict involving laboratory partners.

Several useful publications are available, designed specifically to help faculty or teaching assistants improve their teaching effectiveness. These include *Teaching Tips: A Guidebook for the Beginning Teacher* by Wilbert J. McKeachie, D.C. Heath and Company, 1986; a guide for teaching assistants, *Now What: Readings on Surviving and Even Enjoying Your First Experience at College Teaching* by Joseph Janes and Diane Hauer, Copley Publishing Group, 1988; *The Craft of Teaching* by Kenneth E. Eble, Jossey-Bass, 1976; *On College Teaching* by Ohmer Milton and Associates, Jossey-Bass, 1978; and a monthly newsletter, *The Teaching Professor*. Included in these publications are practical sections on such topics as lecturing, leading discussions, using media, advising, testing, and grading.

In addition, a number of faculty and instructional development offices produce newsletters for their faculty that contain excellent, concise articles focusing on the improvement of teaching and specific techniques. Many include hints and techniques that have proven effective in meeting the problems being addressed. Such publications as *Network Newsletter on College Teaching* (The Center for Teaching Excellence at Texas A&M University), *Teaching at UNL* (The Teaching and Learning Center at the University of Nebraska, Lincoln), *Instructional Development at Waterloo* (TRACE Office, University of Waterloo), *Teaching at SFU- Update* (Office of the Dean, Simon Fraser University), and *Teaching at Berkeley* (Office of Educational Development, University of California at Berkeley) are available to other institutions and can provide extremely practical suggestions while reducing the time necessary to locate your own items.

Summary

Quality teaching does not happen by chance. It requires the commitment of dedicated and talented faculty who have in their careers had the opportunity to learn about teaching and evaluation. The ideal time to reach the majority of this group is early in their careers when they are first serving as teaching assistants. In addition, it is essential, if we are to

improve the quality of teaching at colleges and universities, that every graduate student who plans to teach be provided with the opportunity of being a teaching assistant and in participating in such a program. For new faculty without this backing, formal and required orientations and workshops on teaching should be mandatory. A one-time program, however, is not enough. Teaching will never reach the level of quality that our students deserve until support programs are year-long and institutionalized and the faculty research system actively supports quality instruction.

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