The University of Pittsburgh has exerted concerted efforts to attract and retain liberal arts majors in teacher education, and insure high caliber graduates from its training program. One such program geared to upgrading the professional quality of its graduates is the Master of Arts in Teaching (MAT) program at the University's laboratory school. The MAT program is a graduate internship designed for college graduates with degrees in liberal arts, education, or other professional fields. The program extends over four terms beginning with the Summer Session and continuing for a full calendar year. During this year the intern spends each week of the school year at Falk School, the university's laboratory school. The 180-day clinical experience at the laboratory school involves teaching responsibilities during school hours which are monitored by the master teacher to whom the intern is assigned, and formal classes held after school hours. This paper describes the MAT model of teacher development and the rigorous qualifications and standards employed to insure a high caliber student pool accepted into and graduated from its program. (JD)
MEETING THE TEACHER SHORTAGE HEAD ON

BY

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INTRODUCTION

One of the most frequent criticisms of the teaching profession has been the quality of individuals admitted to and graduated from teacher education programs. The recent National Commission for Excellence in Teacher Education report entitled A Call for Change in Teacher Education, suggests that this criticism conflicts with certain facts. Even though candidates planning to enter the teaching field scored in the bottom quartile of all those taking the American College Testing program examination, the high school grade point average for those entering teacher training programs are virtually the same (3.03 versus 3.09) as for those not interested in teaching careers (A Call for Change in Teacher Education, 1985, p. 5).

Due to the impending teacher shortage of the 90's, however, the supply and demand for quality teachers is a rising concern. The teacher surplus of the 70's certainly will not be present in the 90's. Many factors have contributed to this shortage. Major influences in the decline have been the added career options for women and minorities in the work force, an increase in violence in the classrooms, and the low salaries and esteem extended to those in the teaching profession.

Recommendation one and two of the National Commission's report are central to addressing the "quality" of the supply of teachers to meet the rising demand. Recommendation I states: "Admission to and graduation from teacher education programs should be based upon rigorous academic and performance standards" (A Call for Change in Teacher Education, 1985, p. 8). Recommendation II emphasizes recruitment of "qualified candidates" into the profession, not only the high school student pool, but from liberal arts majors or professionals making
midcareer changes. In the past, one of the most difficult tasks for any teacher education program has been to attract and retain capable liberal arts students. The University of Pittsburgh has, in the past six years, exerted concerted efforts to (1) attract and retain liberal arts majors in teacher education, and (2) insure high caliber graduates from its training program. One such program geared to upgrading the professional quality of its graduates is the Master of Arts in Teaching (MAT) program at the University of Pittsburgh’s laboratory school. The following article describes the MAT model of teacher development and the rigorous qualifications and standards employed to insure a high caliber student pool accepted into and graduated from the program.

DESCRIPTION OF THE MAT MODEL

The MAT Internship in Elementary Education is a graduate program in the Department of Instruction and Learning, School of Education, University of Pittsburgh. The program is composed of thirty-six credits. Of the thirty-six credits, nine are earned in Basic Studies, six in Research Design and Application, and the remaining twenty-one in Professional Education. The Professional Education aspect of the program is comprised of nine competency courses and six integrative courses. This segment of the model involves the acquisition of competencies that are essential for effective teaching (Creek & Vollmer, 1984).

The program extends over four terms beginning with the Summer Session, and continuing for a full calendar year. During this year the intern spends each week of the school year at Falk School, the university’s laboratory school. The 180 day clinical experience at the laboratory school involves teaching responsibilities during school hours which are monitored by the master teacher to whom each intern is assigned and formal classes held after school hours.
The MAT program is a graduate internship designed for college graduates with degrees in liberal arts, education or other professional fields. Successful completion of the Internship Program awards the candidate a Master of Arts in Teaching (MAT) degree and application for a Pennsylvania Instructional I Teaching Certificate.

EVALUATING TEACHING COMPETENCIES OF THE INTERNS

In 1981-82, Falk Laboratory School began to collect research data on its teacher education program. A study was initiated to determine the influence of the MAT model on the acquisition and growth of teaching competencies. (Vollmer, 1982). The instruments used to assess the performance competencies of the interns involved in the MAT Program were the Teacher Performance Assessment Instruments (TPAI). Specifically, the three sections employed were the Teaching Plans and Materials (TPM), the Classroom Procedures (CP) and the Interpersonal Skills (IS). These instruments were developed over a period of four years at the University of Georgia. The Georgia project had utilized thousands of teachers and professional educators in designing, developing and field testing the TPAI (Capie, et al., 1979; Johnson, et al., 1980). The data of Year 1 of the MAT study indicated significant increases in teaching competencies from pre to post scores on the TPM, CP, and IS instruments. Specifically, 36 of the 45 competency indicators of the TPAI were significantly increased from pre to post scores. Intern scores not significantly increased from pre to post measurements were in the Interpersonal Skills performance evaluation. This was expected since scores of these competencies were relatively high at the entry level, leaving little room for growth. The data strongly indicated that the graduates of the MAT Program were "competent" professionals based upon the TPAI performance evaluation measures.
ESTABLISHING SELECTION AND SUPERVISION CRITERIA

Faculty opinion, however, indicated a need to insure the acceptance of highly qualified MAT applicants into the program. It was also feared that a training model of this type could degenerate into a teacher "apprenticeship", if it was not carefully monitored. Therefore, the following criteria were employed:

**Academic Standard Policy**

Admission to and graduation from the MAT Program was based on graduate school standards in terms of entering and exiting QPA requirements. Each MAT candidate needed to have a 3.0 QPA in order to be admitted to the program with full academic status and to maintain a 3.0 for graduation.

**Interviewing Procedures**

Rigorous three level interviewing procedures were employed to insure the selection of quality interns. The first screen was a general interview to verify the academic credentials of each applicant, e.g., valid Bachelor's degree and QPA. At this time an extensive description of the coursework and clinical requirements were given to prospective candidates, and those prospects who did not have adequate academic credentials were discouraged from making formal application to the program.

The second stage of screening for all prospective candidates involved a visit to the university's laboratory school to observe each grade level. During this time each candidate arranged for the third level of screening which involved personal interview with each of the teaching teams. (Teaching teams are comprised of Nursery, Primary, Intermediate, or Middle School master teachers). The personal interview made it possible for candidates to articulate their reasons for pursuing the teaching profession, their attraction to the internship program, and their future goals and aspirations in the teaching field. Final decisions, based upon faculty consensus, regarding acceptance into the internship program were then made.
**Intense Supervision**

The supervisors of the clinical experience of the interns used the TPAI instruments. During Year 1 of the MAT research study, the TPAI was used as an evaluative record of the progress of the interns, but the results were not shared with the trainees. In subsequent years, the TPAI's pre and post scores acted as a framework for interaction with the interns to help articulate and clarify the acquisition of teaching competencies.

The interaction between intern and master teacher regarding the specific teaching competencies in the TPAI was viewed as a beneficial element in the clinical supervision phase of the program. This view has recently been substantiated by other researchers using the TPAI in training situations. Tanner and Ebers (1985) found that "beginning teachers assessed with the TPAI during student teaching had a higher success rate than those without this experience" (Tanner & Ebers, 1985, p. 43).

**Counseling and Reassignments**

Policies were established for counseling and reassigning individuals who were having difficulty developing competencies. Interns were generally assigned to one teaching team for the entire clinical experience. However, if a candidate demonstrated an extreme weakness in any of the TPAI assessment areas, a second experience was arranged at another grade level. This made it possible to reassess the intern's performance in a new environment. After such measures were taken, decisions were then made as to whether continuation of the program was feasible.

**RESULTS AND CONCLUSIONS:**

The data of Year 1 of the MAT study indicated significant increases in teaching competencies from pre to post scores on the TPM, CP, and IS instruments.
Subsequent data for Year 2 and Year 3 also showed significant increases between pre and post scores (Tables 1 to 3). In addition, there was a significant difference in pre-test scores across the three years for all three areas: TPM, CP, and IS. Pre-scores increased significantly during all three years for all TPAI areas (Tables 1 to 3). The higher pre-test scores were attributed to (1) the rigorous screening procedures, and (2) the utilization of the TPAI.

As previously mentioned, rigorous three level interviewing procedures were employed to assure that only high level candidates were admitted to the program. In addition, the master teachers at the laboratory school determined that the Interpersonal Skills instrument of the TPAI had a direct effect on candidate selection. These particular competencies were most easily assessible during the personal interview screening. Candidates demonstrating these particular skills necessary for effective teaching were viewed favorably.

RECOMMENDATIONS

At the present time, teacher educators are hard pressed for expeditious but quality teacher training programs to meet the growing shortage of elementary teachers. Predictions to date (Dunphy, 1985; Mackay-Smith, 1985 Projections of Education Statistics to 1990-91, 1982) all conclude that the shortage will become even more severe. Next year, for example, there will be 12,000 open teaching positions, and by 1993, this figure will soar to 78,000 (Mackay-Smith, 1985).

To meet such a demand for teachers, one in ten college students will have to enroll in the traditional teacher education programs. However, in 1982, fewer than one in twenty freshmen cited teaching as a possible career choice (Call for Change in Teacher Education, 1985, p.6).
### TABLE 1
**TPM SCORE RESULTS**

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE*</td>
<td>2.6 ± .5</td>
<td>3.5 ± .5</td>
<td>3.7 ± .7</td>
</tr>
<tr>
<td>POST</td>
<td>3.7 ± .3</td>
<td>3.9 ± .6</td>
<td>4.1 ± .5</td>
</tr>
<tr>
<td>p</td>
<td>p &lt; .001</td>
<td>p &lt; .08</td>
<td>p &lt; .03</td>
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</tbody>
</table>

*There was a significant difference in pre-test scores across the three years. p < .01 by ANOVA.

### TABLE 2
**CP SCORE RESULTS**

<table>
<thead>
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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE*</td>
<td>3.1 ± .7</td>
<td>3.9 ± .5</td>
<td>4.0 ± .5</td>
</tr>
<tr>
<td>POST</td>
<td>4.0 ± .5</td>
<td>4.2 ± .4</td>
<td>4.2 ± .4</td>
</tr>
<tr>
<td>p</td>
<td>p &lt; .002</td>
<td>p &lt; .13</td>
<td>p &lt; .01</td>
</tr>
</tbody>
</table>

*There was a significant difference in pre-test scores across the three years. p < .01 by ANOVA.

### TABLE 3
**IS SCORE RESULTS**

<table>
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<tr>
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<th>Year 1</th>
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<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE*</td>
<td>3.1 ± .1</td>
<td>4.1 ± .7</td>
<td>4.3 ± .6</td>
</tr>
<tr>
<td>POST</td>
<td>3.9 ± .6</td>
<td>4.2 ± .6</td>
<td>4.3 ± .5</td>
</tr>
<tr>
<td>p</td>
<td>p &lt; .02</td>
<td>p &lt; .17</td>
<td>p &lt; .6</td>
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</table>

*There was a significant difference in pre-test scores across the three years. p < .01 by ANOVA.
Now is the time for teacher educators to look toward other program models to help meet the teacher shortage. For example, individuals making mid career changes into teaching should be helped to do so. In the past four years, the MAT Internship Program has graduated forty-three teachers. Of those forty-three teachers, twenty-seven have been individuals who have made mid career changes into teaching. Data collected over the four year period indicated that there was no significant difference in pre-test scores between Education and Non-Education majors, and no significant differences in post-test scores between Education versus Non-Education majors on all three instruments of the TPAI (Figures 1 to 3).

In summary, the Master of Arts in Teaching model is seen as a viable mechanism for insuring high level admittants and high quality graduates in the field of education, and as a powerful force in overcoming the current elementary teacher shortage.
Figure 1

COMPARISON OF ED AND NCNED STUDENTS ON THE TPM PRETEST

<table>
<thead>
<tr>
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<th>Average Score Per Competency</th>
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<tr>
<td>ED</td>
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<tr>
<td>NCNED</td>
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COMPARISON OF ED AND NONED STUDENTS ON THE TPM POSTTEST

<table>
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<th>Average Score Per Competency</th>
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<tr>
<td>ED</td>
<td>4.0</td>
</tr>
<tr>
<td>NONED</td>
<td>4.0</td>
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</table>
COMPARISON OF ED AND NONED STUDENTS ON THE CP PRETEST

COMPARISON OF ED AND NONED STUDENTS ON THE CP POSTTEST
Figure 3

Comparison of ED and NONED Students on the IS Pretest

Comparison of ED and NONED Students on the IS Posttest
REFERENCES


Mackay-Smith, A. Student boom makes teachers a prize catch. Wall Street Journal, June 20, 1985.

