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## THE SELECTION OF TEACHER TRAINING CANDIDATES IN TAIWAN\*

CHIEN-HOU HWANG    SUH-CHING DENG

This research consists of two studies. Study I included 331 secondary school teachers graduated from National Taiwan Normal University (NTNU). It was found that the First Choice Group did not differ from the Non-first Choice Group in their (a) undergraduate achievement, (b) professional knowledge in education, (c) subjective satisfaction in teaching experiences, and (d) actual teaching performance rated by their principals. Study II included 441 NTNU students. The results indicated that the First Choice Group and the Non-first Choice Group were equally benefited by the training program provided by the university. Hence the belief many people hold that those who made teacher-training institution as their first choice when they applied for the Joint Entrance Examination of Universities and Colleges would become better teachers afterwards than the Non-first Choice Group is not supported.

National Taiwan Normal University (NTNU) is one of the three institutions training secondary school teachers in Taiwan. It provides a 4-year program covering both courses of subject matter and courses of education. At present, it recruits its freshman students through the Joint Entrance Examination (JEE) just as all other universities and four year colleges in this country do. Because NTNU is a prestigious institution, students who are admitted to this university are those who have got very high scores at JEE. But for a good portion of them, teacher education was not their first choice when they applied for university admission.

Since the Joint Entrance Examination of universities is a unique practice in the Republic of China, a brief description about it may be appropriate here. This system of Entrance Examination was established in 1954 with all universities in Taiwan as its member institutions. All the academic departments of these universities are classified into four groups and they are: Group A: Natural Sciences and Engineering; Group B: Humanities and Literature; Group C: Biological, Agricultural and Medical Sciences; and Group D: Social Sciences. Each applicant can only apply for admission to departments within any one of the four groups; but he can list as many as half of the total number of departments in that group as his goals or "choices". On the Application Form, an applicant has to list those choices in the order of his preferences. This is a very important step because later he will be admitted to a department based on that order and no change will be allowed.

At present, the JEE consists of a two day examination covering six subjects.

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The sum of the scores of these six subjects is the key factor of admission. In addition to that, each department may set a minimum score on one or two subjects as its departmental requirement of admission. When these scores are ready, it comes to the climax of the JEE—admission and placement. All applicants in each of the four groups will be arranged in the order of their Grand Total Score with the one who gets the highest score on the top. Then they are to be admitted one by one to the departments they have applied. The one with the highest score in each of the four groups will be admitted first and most likely he will be placed to the department of his first choice provided that he has also met the requirement of that particular department. The one with the second highest score will be processed. When it comes to a case whose first choice has no more vacancy, he will be admitted to the department of his second choice, or the third, or even the tenth, ....., depending on the total situation of placement and admission at that very moment. This same procedure will go on until all the vacancies of all the departments in that Group are taken. This year, (1983), 12,014 will be admitted to the departments of Natural Sciences and Engineering, 5,589 to the departments of Humanities and Literature, 5,517 to the departments of Biological, Agricultural, and Medical Sciences; and 7,543 to the departments of Social Sciences. The overall rate of admission is 31.80%. All these are to be processed by computer.

Every year, about 1,200 students are admitted to National Taiwan Normal University. But only 15% of them made a department of NTNU as their first choice when they attended the JEE and were so admitted (will be referred as the First Choice Group). The remaining 85% of them entered NTNU only because they failed to be admitted to the department of their first choice (or the first five, or ten..... choices). In other words, teacher-education was not their first choice (to be referred as the Non-first Choice Group). This raises an important issue: whether a teacher training institution should accept only students who have made teacher-education their first choice when they apply for university admission. Many people believe that since the First Choice Group have shown strong desire to teach, they would become better teachers than those who do not have such desire. This paper is to test the validity of the argument with empirical studies.

## STUDY I

In this part of the study, 331 secondary school teachers who graduated from NTNU were used as the subjects. Among them, 169 were in the First Choice Group when they entered NTNU while the remaining 162 were in the Non-first Choice Group.

All these teachers were asked to take a test of Professional Knowledge in Education and a revised Job Description Index (JDI). The former was a 46-item test consisting of questions related to general principles of education,

teaching methods, and problems in everyday classroom teaching. It was developed by the second author particularly for this study. The revised Job Description Index was a modified form of the JDI developed by Smith, Kendell and Hulin (1969) and some adjustments have been made by the present authors to fit the cultural situations in Taiwan. The revised JDI is measuring the degree of satisfaction in five aspects of one's job: (a) the work itself; (b) the co-workers; (c) the supervision; (d) the payment; and (e) the promotion. It has been used in several researches in Taiwan (Chen, 1977; Yu, 1980; Su, 1980), and has been regarded a useful instrument.

The actual teaching performance of all these teachers was rated by their principles who were informed about the purpose of the present study. The rating scale was a revision of the Professional Skills Rating Scale developed by the Division of Education, Indiana University and it covered four aspects of teaching performance: instruction, classroom management, & student evaluation; human relationships; professional development; and personal qualities. The rating were made on a five point scale with 5 for the best performance and 1 for the least satisfactory performance.

In addition, the undergraduate academic achievement represented by the General Average Grade of all courses taken in their studies at NTNU, were secured from the Registrar of NTNU for comparative analysis.

When the above-mentioned materials were collected, four comparisons were made between the two groups of teachers, the First Choice Group and the Non-first Choice Group.

#### 1. Difference in Undergraduate Academic Achievements

From the figures given in Table 1, we can readily find that the General Average Grade of the First Choice Group was nearly the same as that of the Non-first Choice Group with no significant difference between them. This means that although the First Choice Group showed greater interest in education and teaching than the Non-first Choice Group when they entered this university, the former did not make better achievement than the later during the undergraduate years. When the teachers were grouped according to the number of years they had been engaged in teaching, the one-year group, the 2-5 year group, and the over 5 year group did not differ from one another in their undergraduate achievements.

#### 2. Difference in Professional Knowledge

Here again, the figures in Table 1 indicate that there is no significant difference between the scores made by the First Choice Group on the Test of Professional Knowledge and that of the Non-first Choice Group. The same picture holds when the total scale was split into sub-scales of its three factors: Intention to Teach, Professional Skills, and Advanced Training in Teaching. In the analysis of variances, it was found that the duration of teaching service had some effect on this variable. Further analysis by using Scheffé's method of

Table 1 First Choice Group Teachers and Non-first Choice Group Teachers Comparisons

|                     | Undergraduate Achievement |       | Professional Knowledge |            | Job Satisfaction |        | Teaching Performance |            |       |            |            |       |            |            |
|---------------------|---------------------------|-------|------------------------|------------|------------------|--------|----------------------|------------|-------|------------|------------|-------|------------|------------|
|                     | M                         | SD    | F                      | M          | SD               | F      | M                    | SD         |       |            |            |       |            |            |
| Choice              | 169                       | 80.05 | 4.18                   | 0.01       | 168.30           | 22.44  | 0.01                 | 82.98      | 18.29 | 0.61       | 77.75      | 11.47 | 0.20       |            |
|                     | Non-first Choice Group    | 162   | 79.41                  | 4.50       | (df=1,313)       | 169.97 | 19.40                | (df=1,313) | 85.49 | 18.74      | (df=1,313) | 78.49 | 11.57      | (df=1,313) |
| Service in Teaching | 79                        | 80.29 | 4.24                   | 4.63       | 165.27           | 20.26  | 4.77*                | 84.91      | 17.39 | 1.69       | 77.94      | 8.29  | 1.16       |            |
|                     | 129                       | 79.37 | 4.71                   | (df=2,313) | 166.34           | 24.60  | (df=2,313)           | 81.65      | 19.97 | (df=2,313) | 77.12      | 13.00 | (df=2,313) |            |
|                     | 123                       | 79.25 | 4.20                   |            | 173.98           | 20.98  |                      | 86.43      | 17.69 |            | 79.26      | 11.74 |            |            |
| Choice × Service    | 331                       |       |                        | 0.13       | (df=2,313)       |        | 0.43                 | (df=2,313) |       | 0.75       | (df=2,313) |       | 0.21       | (df=2,313) |

\*P<0.01

Table 2 Mean and standard deviation on the subscales of JDI

|                        | N   | The Work |      | Co-workers |      | Supervision |      | Payment |      | Promotion |      | Total |       |
|------------------------|-----|----------|------|------------|------|-------------|------|---------|------|-----------|------|-------|-------|
|                        |     | M        | SD   | M          | SD   | M           | SD   | M       | SD   | M         | SD   | M     | SD    |
| First Choice Group     | 169 | 21.60    | 7.10 | 25.46      | 6.58 | 22.41       | 8.05 | 7.22    | 3.76 | 6.51      | 2.96 | 82.98 | 18.29 |
| Non-first Choice Group | 162 | 21.55    | 7.18 | 26.77      | 6.11 | 23.92       | 7.18 | 7.10    | 3.66 | 6.15      | 3.03 | 85.99 | 18.74 |

posterior comparison revealed that those who had served five years and more got a higher score in Professional Knowledge than the other two groups (the one-year group and the 2-5 year Group.)

### 3. Difference in Job Satisfaction

The scores of the subjects on the revised Job Description Index are also given in the Table 2. Both the total score and that of the 5 subscales are shown. These figures indicate that the First Choice Group does not differ from the Non-first Choice Group on any of those scores. In other words, the two group of teachers seemed to have obtained a similar degree of satisfaction from the teaching experiences as a whole as well as from the five different aspects of the work of teaching.

### 4. Difference in Teaching Performance

As is mentioned above, each subject included in this study was rated by the principal of the school to which he or she was affiliated. Since in any one school, only five or six teachers were picked up for this study, so it did not cause the principals too much difficulty to do the rating. The results showed that there was no significant inter-group difference in those ratings indicating that the actual teaching performance of these groups of teachers were about the same in the eyes of the principals.

To summarize, based on the findings of this study, the First Choice Group did not do any better than the Non-first Choice Group in their undergraduate academic achievement or in their Professional Knowledge in Education, nor did they make better performance in actual practice than the later as rated by their principals. Moreover, the two groups of teachers did not differ from one another in their subjective satisfaction in teaching experiences. These results seemed to have rejected the belief that those high school graduates who have made teaching their first choice when they apply for university admission would become better teachers afterwards than those who are in the Non-first Choice Group. Hence there is no reason to suggest that teacher training institutions should admit only the First Choice applicants.

## STUDY II

The subjects of this part of the study were two groups of students drawn from eleven departments of National Taiwan Normal University. The first group consisting of those who made a department of NTNU their first choice when applied for the Joint Entrance Examination and they numbered 220. The other group of subjects were 221 Non-first Choice students from the same departments. A questionnaire concerning the interest in teaching and a test of Professional Knowledge in Education (same as the one used in Study I) were administered to all of them. The following inter-group comparisons were made:

(a) The time when they began to have the desire to become a teacher

Table 3 gives the number of students at various of schooling who began to

have the idea to become a teacher. The figures indicate clearly that more of the First Choice Group than the Non-first Choice Group had the idea to become a teacher at earlier stages and the differences is statistically significant ( $X^2=52.10$ ,  $df=5$ ,  $P<0.001$ )

**(b) Change of interest in teaching after having been admitted to NTNU**

An individual's interest often changes as time goes on. Since NTNU is a teaching training institution, students are required to take various educational courses. As is shown in Table 4, there is generally an increase in the subjects' interest in teaching. The Non-first Choice Group showed a greater increase than the First Choice Group. This indicates that the programs of a Teacher Training institution have fulfilled its function in cultivating the interest of students in educational activities. The fact that the Non-first Choice students showed a greater increase in such interests is easy to understand. As the First Choice Group had a high level of interest in education at the time of application for university admission, there left a limited room for the increase afterwards. On the contrary, the Non-first Choice Group did not show high interest in education in the beginning, so there was sufficient room for an increase. Moreover, part of their increase in interest in education could be attributed to the phenomena of cognitive dissonance. In other words, since they have already entered a teacher training institution, they had better learn to like the teaching profession lest it would cause dissonance and consequently psychological conflicts.

**(c) Difference in Professional Knowledge**

A 46 item test of Professional Knowledge in Education was given to the subjects of this study. It was found that the First Choice Group and the Non-first Choice Group got almost equal score on the test indicating that there was no difference between the two groups as far as the Professional Knowledge was concerned. When the test was divided into three subscales according to its factorial structure, an analysis of variance also showed that the two groups of subjects did not differ from one another on the score of any of those factors.

To summarize, the results of this part of the study seem to indicate that the First Choice Group students and Non-first Choice Group, after having entered NTNU, are equally benefited by the training program provided by the university. Of course, there are many factors that may have either positive or negative effects on the results of training. However, the fact that whether one enters the university as a First Choice Student does not have any correlation with his or her achievement in Professional Knowledge of Education. Although the Non-first Choice Group did not have strong interest in teaching at the beginning, the training program can apparently help develop their interest in this meaningful task.

Table 3: Number of Ss at various stages of schooling with Desire in Teaching

|                        | Childhood | Elementary School | Junior High | Senior High | University | Not yet |
|------------------------|-----------|-------------------|-------------|-------------|------------|---------|
| First Choice Group     | 4         | 26                | 33          | 94          | 48         | 15      |
| Non-first Choice Group | 0         | 8                 | 29          | 52          | 86         | 46      |

$\chi^2=52.40^{**}$  df=5  $**P<0.001$

Table 4: Change of Interest in Teaching

|                                                     | First Choice Group |       | Non-first Choice Group |       | F<br>df=1,434 |
|-----------------------------------------------------|--------------------|-------|------------------------|-------|---------------|
|                                                     | M                  | SD    | M                      | SD    |               |
| (A) Interest in teaching before entering university | 62.55              | 45.96 | 42.25                  | 31.95 | 28.62**       |
| (C) Interest in teaching at present                 | 74.36              | 24.65 | 65.44                  | 27.82 | 12.54**       |
| (C) - (A)                                           | 11.81              | 49.73 | 23.19                  | 29.21 | 8.48**        |

\*\*P<0.001



## CONCLUSION

There has been for many years an argument that the teacher training institutions in Taiwan should accept only students who have made teacher-education their First Choice when they apply for admission to universities. It is believed that since these students have strong desire to teach, they would become better teachers afterwards than those who do not have such desire. To determine the validity of the foresaid belief, the authors of this paper have made two studies with students and graduates of National Taiwan Normal University as the subjects. The results of the first study indicate that the desire of a high school graduate to become a teacher and his interest in teaching when he enters a university are not correlated with his performance later in teaching. The findings of the second study suggest that the training program provided by a teacher-training institution can help develop the interest and knowledge in teaching among those who do not have strong desire in teaching to start with. Hence, in teacher training, the program is of far greater importance than the choice made by candidates during selection.



## 師範大學學生入學志願與教師素質的關係

黃 堅 厚      鄧 素 卿

### 摘      要

本研究包含兩部分，第一部分包括331位師大畢業現在國中任教之教員，其中169人係當年以第一志願考入師大者，另162人則為非第一志願進入師大者。本部分研究發現：此兩組教師在大學就讀時之學業成績、教師專業知識、個人對教學經驗之滿足感，以及經任教校長評定之教學成果等四方面均無統計上顯著之差異。第二部分研究，包括師大在校學生441人，其中220人為第一志願組，221人為非第一志願組，兩組學生在師大師資訓練教育方面的成效幾近相等。此兩部分研究顯示：在師資訓練過程中，教學內容之重要性遠較學生投考時之志願次序為高。一般人常認為以第一志願考入師範院校之學生，服務教育之意願較高，日後成為優良教師之機會較大，本研究所得結果，並不支持此種說法。

