A Four-Year Multifactor Longitudinal Study of Teachers' Attitudes During Training and Teaching

By Ronald N. Marso and Fred L. Pigge

The research findings related to the impact of teacher training and early teaching experiences upon teachers' attitude toward teaching are conflicting at best (Hersh, Hull, & Leighton, 1982; Zeichner, 1980). Some researchers have described the impact of teacher training experiences upon prospective teachers as moving them from early formalized and rigid attitudes toward teaching to a more liberal, democratic, and humanistic attitude about teaching, but then returning them to the more rigid and control-oriented attitude following student teaching and early teaching responsibilities (Callahan, 1980; Hoy & Woolfolk, 1990; Jacobs, 1968; Lipka & Garlet, 1981). Other researchers have suggested that the early teaching experiences simply lead to teacher candidates' conformity to the conservative behavior norms of school bureaucracy (Hoy & Rees, 1977).

Ronald N. Marso and Fred L. Pigge are professors in the Department of Educational Foundations and Inquiry, Bowling Green State University, Bowling Green, Ohio

Cross-sectional studies of neophyte teachers have indicated that no overall change in a high positive attitude toward teaching occurs during preservice education and the initial five years of teaching (Marso & Pigge, 1989), but some longitudinal studies have

indicated that preservice teachers' overall positive attitude toward teaching and pupils becomes even more positive during student teaching (Paschal & Trelor, 1979; Sandgren & Schmidt, 1956).

Zeichner (1980), in attempting to account for contradictions in the findings from the studies of the influence of early teaching experiences upon attitude toward teaching, suggested that initial teaching experiences have a varied impact upon different individuals and that this impact is neither totally positive nor totally coercive. Relatedly, Tabachnick and Zeichner (1984) reported that the impact of early teaching experiences upon neophyte teachers is influenced by the nature of the school settings where the early teaching experiences occur as well as the characteristics of the neophyte teachers. They concluded that viewing early teaching experiences as a "unitary entity" unrelated to the ecological characteristics of the school setting and the attitudes, beliefs, and prior experiences of the novice teachers is inappropriate. Furthermore, other research findings support this perception of multiple factors influencing early teaching experiences. For example, Byler and Byler (1984) found that positive change in the morale of novice teachers during student teaching was related to the extent of their prior field experiences, their expectations of their role in the assigned schools, the extent of acceptance by their cooperating teachers, and their cooperating teacher's own morale.

Pollard (1982) and Carroll (1981) have identified some of the school setting and personal individual characteristics that influence the socialization of neophyte teachers. Personal characteristics of the novice teachers that influence their socialization include extent of training, lifestyle, prior experiences, and knowledge of subject matter. School setting characteristics that influence teacher socialization include guidance from the principal, teacher colleague support, and the appropriateness of the first teaching assignment. Other researchers have reported that gender and grade level of instruction are also associated with attitude changes in prospective teachers (Villeme & Hall, 1980; Pigge & Marso, 1987), and Dispoto (1980) found that the affective attributes of teacher candidates are associated with their performance during student teaching. Elementary education majors and female teacher candidates tend to have a more positive attitude toward teaching than do secondary education majors and male teacher candidates, and those prospective teachers with more positive attitudes toward teaching tend to earn higher student teaching performance ratings and are more likely to enter the teaching field after graduation.

The purpose of the present study was to ascertain whether or not selected academic ability and personal attributes of neophyte teachers were associated with longitudinal changes in their attitude toward teaching as they progressed through training and the first year of teaching. More specifically, this study was designed to test the following null hypotheses: 1) The teachers' attitude toward teaching will not change as they progress in time from the commencement of teacher training, to the completion of student teaching, and to the culmination of their first year of full-time

teaching. 2) The teachers' attitude toward teaching will not be related, in either a main effect sense or in terms of interaction with time, to their academic ability as indicated by their: student teaching performance ratings, university grade point averages, American College Test scores, and Comprehensive Test of Basic Skills scores. 3) The teachers' attitude toward teaching will not be related, in either a main effect sense or in terms of interaction with time, to their personal attributes as indicated by their gender, grade level of instruction, when they made their decision to become teachers, evaluation of their teacher training, personality type, and feelings of locus of control.

Method

The longitudinal sample was comprised of 65 neophyte teachers who began their teacher training in 1985 and who by June 30, 1989 had completed their first year of full-time classroom teaching. These teachers had completed the Attitude Toward Teaching as a Career Scale at the commencement of teacher training, following student teaching, and near the end of their first year of teaching. This attitude scale provides a single score from 11 items responded to on a continuum from strongly disagree (1) to strongly agree (6); thus a score of 66 represents the maximum positive attitude score from this instrument. Merwin and DiVesta (1959) reported a test-retest coefficient of reliability of .79 for the scale and construct validity evidence in the form of a significant difference in attitude between students having and not having selected teaching as a career.

In addition, the following data were gathered for the neophyte teachers during their teacher training or at the end of their first year of teaching: American College Test (ACT) and Comprehensive Test of Basic Skills (CTBS) composite scores, university grade point averages, Rotter's (1966) locus of control scores, university supervisors' ratings of their student teaching performance, Myers-Briggs Type Indicator classifications (Myers & McCaulley, 1985), gender, planned grade level of instruction, when they had decided to become teachers, and their ratings of the quality of their teacher training.

One- and two-factor repeated measures analysis of variance procedures were used to test the hypotheses. Attitude scores were used as the dependent variable, the three points in teacher development (prior to and following teacher training and at the end of the first year of teaching) were used as the first independent variable (column classification), and the teachers' academic ability and personal attribute classifications were used as second independent variables (row classification).

The specific 2X3 and 3X3 ANOVA row classifications were: high and low halves of the subjects formed from their ACT and CTBS composite scores, university grade point averages, and their student teaching performance ratings; their dichotomous personal indices of gender, grade level of instruction (elementary or secondary), Myers-Briggs' personal preference types (extraversion-intro-

version, sensing-intuition, thinking-feeling, and judging-perceptive), approximate top and bottom one-thirds of their externality scores from Rotter's locus of control scale, and their perception of the quality of their teacher training (grades of A or B); and their classifications of when they decided to become teachers (prior to, during, or following their high school years).

Findings

The one-factor ANOVA of the attitude scores obtained just prior to the beginning of teacher training, following student teaching, and near the completion of the first year of full-time teaching indicated that the teachers' attitude toward teaching did not change markedly during this period of their development. The attitude means for the total sample at these three points in teacher development were 52.1, 52.3, and 50.6, respectively, ($F=0.87$, $p=.42$). The standard deviations of these attitude scores varied from 5.90 before training, 6.20 after training, to 7.23 after teaching with an average standard deviation over the three points of 6.44. This led to the non-rejection of the first null hypothesis of the study.

The two-factor ANOVA procedures revealed no significant ($p<.05$) relationships between the neophyte teachers' attitude scores and the four academic indices (ACT and CTBS scores, student teaching performance ratings, and university grade point averages); these findings led to the non-rejection of the second null hypothesis of the study. However, these ANOVA procedures revealed significant relationships between the neophyte teachers' attitude scores and each of the six selected personal characteristics; therefore, the third null hypothesis was rejected. A significant F-ratio was identified for just one of the four Myers-Briggs dichotomies, judging as opposed to perceptive preference types.

This pattern of attitude scores suggests that those classified as perceptive individuals (a preference for a flexible and spontaneous way of life) had a less positive attitude toward teaching as compared to their cohorts classified as judging individuals (preference for a planned, decided, orderly way of life) at all measurement points with the largest apparent difference following their first year of teaching evidenced by an effect size of +.70. The overall row mean was 52.3 for the judging individuals and 50.1 for those classified as perceptive ($F=3.47$, $p=.03$, $ES=+.34$). This finding suggests that the perceptive teachers may have found that teaching demanded a greater amount of planning and organization than they preferred; consequently, they expressed a less positive attitude about teaching than their cohorts during training and near the end of their first year of teaching (see Table1).

Effect sizes (ES) in this paper were computed by dividing the various mean differences by the average standard deviation of the attitude scores (6.44). Borg and Gall (1989, p. 7) indicate that "Researchers consider effect sizes larger than +.33 to have practical significance, that is, the effect is large enough to make a worthwhile

Table 1
Attitude Means and F-Ratios for Three Points in Teacher Development and Various Two-Factor ANOVA (Row) Classifications of Teachers' Personal Characteristics

Classification	N*	Before Training	After Training	After Teaching	Overall Mean	F	p
M-B Type:							
Judging	46	52.4	53.0	51.6	52.3	3.47	.03
Perceptive	12	51.2	52.0	47.1	50.1		
Effect size**		+.19	+.15	+.70	+.34		
Gender:							
Male	11	50.4	50.0	47.0	49.3	4.36	.04
Female	54	52.4	52.8	51.4	52.2		
Effect size		+.31	+.43	+.68	+.45		
Level:							
Elementary	38	52.5	53.5	53.3	53.1	9.20	.003
Secondary	25	52.0	50.2	47.3	49.8		
Effect size		+.08	+.51	+.93	+.51		
Decide Teach:							
Prior H.S.	22	53.8	52.6	53.6	53.3		
During H.S.	29	52.7	52.5	49.5	51.6	3.18	.04
After H.S.	11	49.8	51.1	50.6	50.5		
Effect size		+.62	+.23	+.47	+.43		
Training:							
'A' grade	22	53.8	54.6	54.1	54.2	6.43	.003
'B' grade	38	50.9	51.0	48.6	50.2		
Effect size		+.45	+.56	+.85	+.62		
Control:							
Internals	22	52.7	54.6	52.5	53.3	5.81	.02
Externals	22	50.4	52.5	47.8	50.2		
Effect size		+.38	+.33	+.73	+.48		

*Sample sizes varied somewhat as not all information was available on all teacher candidates.
**Effect size determined by larger mean minus smaller mean divided by the average SD (6.44) except for the decide to teach classification where the mean difference was between the largest and smallest means.

difference in the outcome." Effect size is considered to be the most appropriate indication of the practical significance of the findings of a study. An effect size of 0 means the average subject receiving treatment did no better or no worse than the average subject not receiving the treatment, and an effect size of 1.00 means that the average subject in the treatment group scored at the 84th percentile of the control group distribution.

The male neophyte teachers reported a less positive attitude toward teaching at all three measurement points than did the female teachers. The overall mean was 49.3 for the males and 52.2 for the females ($F=4.36$, $p=.04$). As the gender difference was most apparent at the end of the first year of teaching (ES=+.68), it appears that the male teachers may have been less satisfied with their first year teaching experiences than were the female teachers (see Table 1).

At all three measurement points the secondary teachers expressed a less positive attitude toward teaching as a career than did the elementary school teachers with the difference again being most evident at the end of the first year of teaching (ES=+.93). The overall mean was 49.8 for the secondary and 53.1 for the elementary teachers ($F=9.20$, $p=.003$). The similarity of the pattern of means for the gender and instructional level classifications may be the result of a confounding effect as nearly all the male teachers were also secondary majors.

A significant interaction effect also was identified between the three measurement points in teacher development and the instructional level classification for the attitude scores ($F=3.96$, $p=.02$). The pattern of cell means suggests (see Table 1) that secondary teachers' attitude toward teaching became less positive during training and the first year of teaching; whereas the elementary teachers' attitude toward teaching during training and their first year of teaching remained highly positive and stable over time.

A significant association was revealed between the neophyte teachers' attitude toward teaching and when they made their decision to become teachers ($F=3.18$, $p=.04$). The mean pattern for this time of decision classification suggests that those teachers who had decided to teach prior to high school had the most positive attitude about teaching and maintained that attitude during training and the first year of teaching; whereas those who had decided to teach during high school or following high school reported a less positive attitude about teaching as a career with mean differences between the three groups being most apparent upon commencement of teacher training (ES=+.62) and following the first year of teaching (ES=+.47).

The relationship identified between the first year teachers' perception of the quality of their teacher training and their attitude toward teaching indicated that those teachers who assigned a B to the quality of their training reported a less positive attitude (overall mean of 50.2) toward teaching than did those candidates who assiged an A (overall mean of 54.2) to their training ($F=6.43$, $p=.003$, ES=+.62). An examination of these score means suggests that the attitude of those teachers assigning a B to the quality of their university training was less positive at

all three measurement points with the difference again being most apparent after the first year of teaching (ES=+.85). It is especially interesting to note that at the commencement of training, and prior to having experienced any teacher preparation requirements, those individuals who four years later assigned a grade of B to their training had a significantly lower attitude toward teaching (ES=+.45) than did those individuals who later assigned an A to their training.

The locus of control classification indicated that those neophyte teachers who perceived themselves as having more control over their environment (internals) had a more positive attitude toward teaching ($F=5.81$, $p<.05$, ES=+.48) than did those teachers reporting an external locus of control (overall means of 53.3 and 50.2, respectively). The internally controlled individuals appeared to maintain their higher and more positive attitudes through training and the first year of teaching while the externally controlled individuals appeared to become less positive about teaching after their first year of experience as compared to upon the completion of their teacher training. There certainly appears to be a significant difference between the two groups at the end of their first year of teaching (ES=+.73).

Summary and Discussion

A longitudinal sample of 65 neophyte teachers completed a measure of attitude toward teaching as a career upon commencement of teacher training, after student teaching, and near the completion of their first year of full-time teaching. It was found that these teachers' attitude toward teaching did not change during this developmental period, nor did their attitude toward teaching become less positive as they progressed through teacher training and their first year of full-time teaching as might have been expected from some previous research findings. This led to the non-rejection of the first null hypothesis of the study that the neophyte teachers' attitude toward teaching would not change during early teacher development.

The novice teachers' academic ability classifications (student teaching performance ratings, university grade point averages, and ACT and CTBS scores) did not reveal significant overall mean differences in attitude toward teaching. This led to the non-rejection of the second null hypothesis of the study that measures of the novice teachers' academic ability would not be related to their attitude about teaching during early teacher development.

Each of the teachers' personal attribute classifications (gender, grade level of instruction, when the decision to teach was made, perception of the quality of their teacher training, personality type, and locus of control) was found to be related to the teachers' attitude toward teaching scores. This finding resulted in the rejection of the third null hypothesis that neophyte teachers' attitude toward teaching during early teacher development would not be related to their personal attributes.

The findings of the present study suggest that personal attributes but not academic ability are related to neophyte teachers' attitude toward teaching during

their early development. As a total group, the novice teachers maintained a highly positive attitude toward teaching during teacher training and through the first year of teaching; whereas some subgroups of the teachers appeared to develop a less positive attitude toward teaching during these early teacher development years. Male and secondary teachers, teachers who decided to become teachers during high school, teachers who assigned a lower grade to the quality of their teacher training, teachers who felt that they had less control over their environment, and those teachers who had a preference for a more flexible and spontaneous way of life expressed a somewhat less positive attitude after their first year of teaching than they had during teacher training.

It is not known whether the second and subsequent years of teaching will contribute even further toward the less positive attitude of male, secondary, externally controlled, less planned and orderly teachers, and those deciding to teach during or after high school, or whether an increasingly less positive attitude toward teaching ultimately results in many of them leaving the profession. A related question is what teacher trainers and those responsible for the induction of new teachers into the profession can do to make the first year and perhaps the subsequent years of teaching more positive for these possible "at risk" neophyte teachers. It would seem feasible that a more supportive orientation and induction program might develop more realistic expectations, might alleviate initial negative transition experiences, and perhaps might eventually reduce the loss of otherwise capable teachers from the profession.

Considerable research evidence already links teachers' locus of control (Lefcourt, 1982) and personality type (Myers & McCaulley, 1985) with both pupils' and teachers' classroom behavior. For example, Harpin (1980) and Harpin and Sandler (1979) reported a positive relationship between teachers' feelings of an internal locus of control and the effectiveness of teachers' management of their classes, and DeNovellis and Laurence (1983) found a relationship between teachers' personality type as measured by the Myers-Briggs Type Indicator (a judging in contrast to perceptive preference) and the effectiveness of new teachers' management of their classes.

Similarly, Marso and Pigge (1991) found relationships between the personality type and the locus of control orientation of student teachers and ratings of their performance by university supervisors. They noted that prospective teachers who had feelings of being controlled by external rather than internal forces and those who had a preference for a flexible and spontaneous rather than a planned, decided, orderly way of life performed less well in student teaching.

Perhaps through appropriate teacher induction programs, externally controlled and perceptive type neophyte teachers might be assisted in better adapting to classroom teaching through examining their feelings of control and preferences for structure as they experience the demands and bureaucracy of typical school settings. Even further into the future, continued research of personal and affective

attributes of novice teachers who successfully progress through early career development may result in sufficient knowledge to better counsel individuals at the time when they are considering whether or not to select teaching as a career.

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