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ABSTRACT

A longitudinal sample of 241 teacher candidates was studied to identify possible relationships between the extent of their success in making the transition from student to teacher and development of their confidence, anxiety, and attitudes about teaching during teacher preparation. Statistical analysis of data collected prior to and near the end of teacher preparation and seven years after the commencement of teacher preparation revealed: pre- to post-preparation changes occurred in the candidates' confidence and anxiety about teaching but not in their attitude toward teaching as a career; when classified by the extent of their success in making the transition from student to teacher (full-time teacher, part-time teacher, and not teaching), the candidates differed in attitude but not in confidence and anxiety about teaching; and the teacher candidates' academic ability indices (ACT scores, student teaching performance ratings, and basic academic skills) and personal attributes (gender, when first deciding to teach, locus of control, elementary or secondary major, and Myers-Briggs preference classification) were related to one or more of the set of three affective measures. The findings of the present study indicate that teacher preparation itself has an impact upon teacher candidates' affective characteristics, but that the impact may be difficult to assess as affective change during teacher preparation interacts with the candidates' academic and personal attributes. (Contains 16 references.) (Author/JLS)

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Relationships Between Pre- and Post-Preparation Development of Attitudes, Anxieties, and Confidence about Teaching and Candidates' Success or Failure in Making the Transition to Teaching

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Abstract

A longitudinal sample of 241 teacher candidates was studied to identify possible relationships between their extent of success in making the transition from students to teachers and development of their confidence, anxiety, and attitude about teaching during teacher preparation. MANOVA procedures completed on data collected prior to and near the end of teacher preparation and seven years after the commencement of teacher preparation revealed: that pre- to post-preparation changes occurred in the candidates' confidence and anxiety about teaching but not in attitude toward teaching as a career; that when classified by the extent of their success in making the transition from students to teachers (full-time teachers, part-time teachers, and not teaching) the candidates differed in attitude but not their confidence and anxiety about teaching; and that the teacher candidates' academic ability indices (ACT scores, student teaching performance ratings, and basic academic skills) and personal attributes (gender, when first deciding to teach, locus of control, elementary or secondary majors and the Myers-Briggs dichotomous personal preference classifications) were related to one or more of the set of three affective measures; and that six time in preparation x subject personal or ability classification statistical interactions were identified for the set of affective dependent variables.

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**Relationships Between Pre- and Post-Preparation Development of
Attitudes, Anxieties, and Confidence about Teaching and Candidates'
Success or Failure in Making the Transition to Teaching**

Increasingly, research findings indicate that affective changes do occur in prospective teachers as they progress through teacher preparation and early teaching years and that these affective changes follow predictable patterns in accord with theoretical frameworks such as Fuller's (Fuller & Brown, 1975) model of the development of concerns about teaching (e.g., Adams, 1982; Adams & Martray, 1981; Pigge & Marso, 1990; Pigge & Marso, 1987; Kagan, 1992; Rogan, Borich, & Taylor, 1992; Silvernail & Costello, 1983). These research findings, however, also reveal perplexing inconsistencies about the specific nature of the impact of teacher preparation upon aspiring teachers. Efforts to study these inconsistencies have led researchers to conclude that personal characteristics of prospective teachers and characteristics of preservice education experiences impinge upon their development (e.g., Marso & Pigge, 1989; Tabachnich & Zeichner, 1984; VILLEME & Hall, 1980; Weinstock & Peccolo, 1970).

Similarly, there is an increasing amount of research literature describing the extent and nature of teacher attrition. This literature, however, provides but little information about the individual characteristics of those teachers persisting or not persisting through teacher preparation and early years of classroom teaching. Some of this research indicates the teaching profession in the past may have been less effective in attracting and retaining talented candidates than have been other professions (e.g., Chapman, 1983; Chapman & Hutcheson, 1982). For example, studies indicate that many capable candidates are lost in college student transfers from teacher preparation to other academic programs (Schlechty & Vance, 1981), that many capable candidates do not become teachers after completing teacher preparation, and that many capable candidates who do become teachers leave teaching in early or mid-career (Heyns, 1988).

Various theoretical models have been formulated to explain the factors influencing recruitment to and attrition from the teaching profession. For example, Weaver (1983) takes the position that an individual's marketability in our society is the foremost influence upon both teacher attrition and recruitment. He points out that teachers with more marketable talents are less likely to be attracted to teaching initially, and, if teaching, they are more likely to be attracted to lucrative employment out of the profession. He also predicts that increased career opportunities for talented women and minorities, concomitant with the declining attractiveness of schools as a work place, will have a major detrimental impact upon the quality of the future teaching pool. In contrast to Weaver's single factor marketability model, Chapman (1983) has constructed a multi-factor model to explain teacher recruitment and attrition. His research and that of his colleagues have revealed that factors such as candidates' personal characteristics, initial commitment to teaching, success in initial teaching experiences, later career satisfaction, and quality of first classroom assignment, as well as external employment marketability are associated with entry to and attrition from the teaching profession (Chapman, 1984; Chapman & Green, 1986; Chapman & Hutcheson, 1982).

Somewhat contrary to the marketability model of teacher attrition, some longitudinal studies of teacher attrition have indicated that capable individuals once attracted to the field are as likely to persist through teacher training (Marso & Pigge, 1991; Pigge & Marso, 1992) and through their early teaching years (Heyns, 1988) as are their less capable cohorts. Furthermore, and somewhat contrary to the aforementioned research suggesting that education has been less effective than other fields in attracting academically competent individuals to the profession (Shields & Daniel, 1982), longitudinal investigations of the academic ability of those individuals actually entering the teaching field, rather than comparing the ability of high school seniors aspiring to become teachers with those high school seniors aspiring to enter other fields, have revealed much more favorable ability comparisons between those actually becoming teachers and their cohorts entering other fields (Book, Freeman, & Brousseau, 1985; Nelson, 1985). These studies indicate that less able high school students, many of whom never complete college, are more likely to indicate teaching as a potential career than other careers, and many more capable high school students who initially express interest in other

fields actually become teachers. For example, Nelson (1985), utilizing data from the National Longitudinal Survey, reported that fewer than 25 percent of this sample of actual teachers had planned to be education majors as seniors in high school, and Lyson and Falk (1984) conducting a similar study reported that 75 percent of the high school seniors who had planned to teach were not teaching seven years after their high school graduation.

The present longitudinal study was conducted to determine if selected academic ability and personal characteristics of teacher candidates and changes in their affective development during teacher preparation are related to the extent of their success in making the transition from students to teachers. More specifically, this study was designed to answer the following questions: 1) Are changes in confidence, attitude, and anxiety about teaching during teacher preparation related to the degree to which teacher candidates make a successful transition to the teaching profession? 2) Are indices of candidate academic ability and performance during teacher preparation, such as university and education earned grade point averages, ratings of student teaching performance, American College Test (ACT) scores, and Comprehensive Test of Basic Skills (CTBS) scores related to the candidates' affective development during preparation and to the extent of their success in making the transition from students to teachers? 3) Are the personal attributes of candidates during teacher preparation, such as Myers-Briggs personality preferences and locus of control orientation related to the candidates' affective development during preparation and to the extent of their success in making the transition from students to teachers?

Methods and Procedures

The longitudinal sample for this study consisted of 241 teacher candidates who began their teacher preparation program at a large midwestern teacher preparation university during 1985. These teacher candidates completed the Teaching Anxiety Scale, the Attitude Toward Teaching Scale, and a confidence about their effectiveness as a future teacher scale upon orientation to their first required teacher preparation course and again upon the completion of their student teaching practicum. Seven years after the commencement of teacher preparation, multi-strategy follow-up procedures allowed the researchers to classify the teacher candidates as to the extent of their success in making the transition from students to teachers as follows: 1) full-time teachers, 2) part-time teachers (e.g., substitute teachers, temporary full-time replacements, etc.), and 3) not teaching but certified as teachers.

This 1985 class of teacher candidates was predominantly female (81%), elementary (57%) and secondary (43%) majors, very certain or almost certain about teaching (88%), from families with teachers in the present or prior generation (60%), children of parents not having four-year college degrees (67%), from somewhat larger families (46% with three or more siblings), second or later birth order (66%), made up of individuals with some or considerable teaching-like experiences prior to teacher preparation (73%), very confident about becoming unusually good to exceptionally effective future teachers (78%), from rural (33%) or suburban (54%) high schools of moderate to small size (61% in high school graduating classes of 300 or less), and individuals who had decided to teach during their elementary (24%) or high school years (50%) rather than after high school graduation.

In addition to completing the three aforementioned affective pre- and post-preparation measures, the teacher candidates completed the Comprehensive Test of Basic Skills (CTBS) and reported various personal and family characteristics, such as gender, the presence of teachers in their immediate families, parent educational levels, when they first became interested in becoming teachers, whether elementary or secondary majors, and the degree of their assurance about becoming teachers upon entering their first required teacher preparation course. Near the end of their student teaching practicum the candidates completed Rotter's locus of control externality scale (Rotter, 1966) and the Myers-Briggs Type Indicator (Myers & McCaulley, 1985). Upon graduation the American College Test (ACT) scores, university supervisors' ratings of their performance as student teachers, and university and education grade point averages were obtained from the records of the candidates. And finally seven years after the commencement of teacher preparation, through personal and family

contacts, examination of university and alumni records, and reviews of State Department of Education initial and annual certification records, the candidates were classified within the three previously described categories of extent of success in making the transition from students to teachers.

The attitude toward teaching as a career instrument contains 11 items each of which is answered on a response format ranging from strongly disagree '1' to strongly agree '6' with higher scores indicating a more positive attitude. Merwin and Di Vesta (1959) reported a test-retest coefficient of reliability of 0.79 for this instrument and construct validity evidence in the form of a significant difference in attitude between students having and not having selected teaching as a career. This instrument is unique in the field in that it provides discriminant validity related to career choice and more recent research (Pigge & Marso, 1992) has indicated that the scale differentiates between teacher candidates persisting or not persisting through preparation.

The anxiety about teaching measure consists of 29 items with a response continuum from never '1' to always '5' with higher scores indicating more anxiety about teaching. Parsons (1973) reported a test-retest coefficient of stability of 0.95 for this scale and concurrent validity correlations between this instrument and other anxiety scales and supervisors' ratings of the anxiety level of teacher interns. The confidence of future effectiveness as a teacher is a single item eight-point scale responded to from not effective at all '0' to truly exceptional '7'. The student teacher performance rating scale is a researcher constructed instrument requiring university supervisors to rate a student teacher's performance relative to all student teachers he/she has supervised over the previous five years in six categories: content presentation, preparation-organization, learning climate, controlling or managing student behavior, professional knowledge and behavior, and fairness-tact-judgment. These six items are responded to on an eight-step scale from lowest '0' to highest '7', yielding a total score range from zero to 42.

The locus of control measure (Rotter, 1966) provides a single externality score indicating the extent to which the testee attributes events in his/her world as being influenced by his/her own actions or by external factors. The Myers-Briggs (Myers & McCaulley) measure provides four dichotomous classifications of the testees' preferences in addressing their perceptual world as follows: extraversion-introversion (E-I), sensing-intuitive (S-N), thinking-feeling (T-F), and judging-perceptive (J-P). Both of these latter two instruments have been used extensively in research and counseling settings over a period of many years. The CTBS is one of the most frequently used K-14 achievement batteries with focus upon assessment of reading skills, language acquisition, and mathematical computations and concepts, and the ACT developed by the American College Testing Program is one of the two major college admission tests used for over three decades.

The set of affective dependent variables (attitude, anxiety, and confidence scores) was analyzed using a two-way, mixed model multivariate analysis of variance (MANOVA) design. The classification of teachers within the three previously described categories indicating the extent to which they made the transition from students to teachers served as the single between-subjects factor, and the time in teacher preparation (pre- and post-preparation) served as the within-subjects factor. Significant multivariate F values (α .05) allowed appropriate follow-up ANOVA univariate analyses. These univariate analyses included classifications of the teachers' aforementioned characteristics to allow the identification of possible relationships and interactions between time in teacher preparation, extent of success in making the transition from students to teachers, and the various subject characteristics classifications for the set of three affective dependent variables. Tukey/Kramer comparison procedures were employed to reveal pair-wise mean differences and graphs were used to depict the nature of the interaction effects.

The primary statistical analyses (ANOVA) for this study were those related to three-factor "experiments" with repeated measurements on just one of the factors. The "within subjects" component permitted a determination of whether or not the individuals differed significantly over the two points of time in teacher preparation (pre- and post-preparation) with respect to each of the dependent variables. The "between subjects" component permitted tests of whether the candidates with different

levels of success in their transition from students to teachers (full-time teachers, part-time teachers, and no teaching experience) differed. Other specific classifications used for the "between subjects" analyses were: the four dichotomous preference classifications of the Myers-Briggs (extroversion-introversion, sensing-intuitive, thinking-feeling, and judging-perception); the externality locus of control (high, middle, and low one-thirds); the university and education grade point averages (approximate high, middle, and low one-thirds) classification; the basic academic skills (CTBS composite scores approximate high or low halves) classification; student teaching performance ratings classification (high, middle, and low approximate one-thirds); the scholastic aptitude (approximate top and bottom one-halves of ACT composite scores) classification; time when the decision to teach was made (elementary grades, high school, and after high school graduation) classification; initial assurance about their decision to become teachers (very certain, certain and uncertain) classification; presence of teachers in immediate family (yes and no); and academic major (elementary and secondary) classification. The ANOVA interaction terms permitted determinations as to whether the time in teacher preparation and/or the extent of transition from students to teachers factors and the various between subjects classifications interacted for the three dependent variables (attitude, anxiety, and confidence scores).

Results

The two-way MANOVA procedures completed on the set of three affective dependent variables identified a significant time, sophomore to senior, main effect ($F = 28.90, p = .0001$) and a significant transition group, part-time teachers, full-time teachers, and certified but not teaching, main effect ($F = 3.11, p = .0055$), and a nonsignificant time x transition interaction. The follow-up two-way ANOVA procedures revealed statistically significant transition group main effects for the attitude, anxiety, and confidence measures and a significant time in preparation main effect for just the anxiety measure (see Table 1).

 Insert Table 1 about here

Two-Way ANOVAs

The certified but not teaching candidates reported less positive attitudes toward teaching as a career ($M = 49.46$) compared to the part-time ($M = 52.06$) and full-time ($M = 52.48$) teachers who reported comparable levels of attitudes, $F = 6.72, p = .0015$. The part-time teachers reported the lowest levels of anxiety about teaching ($M = 65.32$), followed by the full-time teachers ($M = 67.68$), and the candidates not teaching ($M = 69.68$) with each mean differing significantly from one another, $F = 3.78, p = .0244$. The candidates not teaching reported a lower level of confidence in their future effectiveness as teachers ($M = 5.03$) compared to the part-time teachers ($M = 5.35$); whereas the ratings completed by the full-time teachers ($M = 5.26$) differed from neither of the other two groups, $F = 3.04, p = .0500$. The anxiety measure revealed a significant time mean difference with the seniors ($M = 64.16$) reporting less anxiety about teaching than the sophomores ($M = 71.29$), $F = 83.26, p = .0001$; however, the attitude and confidence pre- and post-preparation means did not differ significantly. None of the transition group x time in preparation interactions were significant as previously noted by the Wilks' Lambda test. These overall findings are presented in Table 1.

Three-Way ANOVAs

The three-way ANOVA procedures, when the academic and personal classifications were added as a second independent variable, identified significant mean differences for the major, ACT, Myers-Briggs, and assurance about teaching classifications for the attitude measure. The Myers-Briggs, assurance about teaching, and locus of control classifications revealed significant mean differences for

the anxiety measure; and the Myers-Briggs, student teaching performance ratings, and the assurance about teaching classifications revealed significant mean differences for the effectiveness measure.

 Insert Table 2 about here

The elementary, high ACT, extroverted, judging, and very certain about teaching candidates reported more positive attitudes toward teaching than did their contrasting cohort groups. The extroverted, very certain about teaching, and internally oriented candidates reported less anxiety about teaching than did their contrasting cohort groups. And the intuitive (individuals preferring to look for possibilities and relationships rather than known facts in addressing their world), those who had earned highest student teaching ratings, and those candidates very certain about teaching rated the future effectiveness as teachers higher than did their contrasting cohort groups. Collectively, these findings indicate that the teacher candidates' academic and personal characteristics were related to the levels of their confidence, anxiety, and attitude about teaching during teacher preparation. The main effect F-ratios, means, and p values for these classifications are presented in Table 2.

Significant Interactions

Six statistically significant time in preparation x candidate personal/academic classification interactions were identified by the three-way ANOVA procedures as listed in Table 3. Three of the interactions involved the attitude scores, two involved the anxiety scores, and one involved the confidence in future effectiveness as teachers scores. Additionally, a time x transition group x student teaching performance classification interaction was identified, $F = 2.99$, $p = .0201$, which was uninterpretable.

 Insert Table 3 about here

No relationships with the set of three dependent variables for any of the analyses were identified for the university and education grade point averages, time when the decision to teach was made, and presence of teachers in the family classifications of the candidates.

Figures 1 and 2 derived from these interactions suggest that the more capable candidates, those with higher CTBS and ACT scores, reported a somewhat more positive attitude toward teaching as a career as seniors than they did as sophomores. In contrast, the less able candidates reported less positive attitudes as seniors than they did as sophomores. Therefore, the nonsignificant time in teacher preparation main effect for the attitude measure does not reflect the actual changes in attitude experienced by these teachers. Changes, in fact, appeared to be occurring, for the more capable candidates felt more positive about teaching as a career while less capable candidates felt less positive about teaching as they progressed from pre- to post-preparation.

 Insert Figures 1 and 2 about here

Figures 3 and 4 indicate that the candidates uncertain about becoming teachers reported relatively much less positive attitudes toward teaching and much less confidence about their future effectiveness as teachers than did their sophomore cohorts; however, they reported dramatically more positive scores on these two measures as seniors to the extent that the large variance among the sophomore scores became just modest differences amongst the senior candidates. The very certain and

certain candidates reported little change in perceived confidence as future teachers and in attitude toward teaching between the sophomore and senior points in teacher preparation. These interactions reaffirm the previously noted caution about interpreting the nonsignificant time main effect for the attitude measure and suggests that a similar phenomenon may be occurring with the confidence measure (The time main effect for the confidence measure just approached significance with $F = 2.90$, $p = .0903$ as shown in Table 1).

 Insert Figures 3 and 4 about here

Figures 5 and 6 illustrate the main effect of a significant reduction in anxiety about teaching during teacher preparation, but additionally, indicate that extroverted and secondary school candidates reported a somewhat greater decline in anxiety about teaching from the sophomore to senior points in teacher preparation than their introverted and elementary school cohorts. It can also be noted in these figures that the two classification groups, introvert-extrovert and elementary-secondary, began teacher preparation with more comparable levels of anxiety than they reported upon the end of teacher preparation.

 Insert Figures 5 and 6 about here

Summary and Discussion

The part-time teachers, full-time teachers, and the certified but not teaching candidates in this sample of teacher candidates, when classified as such seven years after commencement of teacher preparation, differed in reported levels of anxiety about teaching, attitude toward teaching as a career, and confidence in their future effectiveness as teachers during teacher preparation. The nonteaching candidates reported a less positive attitude toward teaching, more anxiety about teaching, and rated themselves as less effective future teachers than had the part-time and/or the full-time teachers.

Just the anxiety about teaching measure revealed a difference between the pre- and post-teacher preparation points in the candidates' career development with less anxiety reported near the end of the student teaching practicum as compared to upon commencement of teacher preparation. However, six statistically significant time in preparation \times candidate academic or personal classifications were identified which suggested that changes occurred in all three measures but that change during teacher preparation was not consistently in the same direction for all the candidates. For example, the less able candidates, as indicated by CTBS and ACT scores, reported less positive rather than more positive attitudes toward teaching after the student teaching practicum than upon commencement of teacher preparation. The candidates least certain about teaching reported greater confidence in their future effectiveness as teachers and a more positive attitude toward teaching near the end of teacher preparation than did their more certain about teaching cohorts, and the extroverted and secondary school candidates reported a greater decline in anxiety about teaching during preparation than their introverted and elementary school cohorts.

Relative to main effect overall differences revealed by the academic and personal classifications of the teacher candidates, the elementary school, higher ACT, extroverted, and very certain about teaching candidates as general groups reported a more positive attitude about teaching than their secondary, lower ACT, introverted, and uncertain about teaching cohorts. The extroverted, very certain about teaching, and lowest externality candidates (those individuals who felt they, themselves, could influence many elements in their world) as general groups reported less anxiety about teaching than their introverted, less certain, and mid or high externality cohorts. And the intuitive

(individuals preferring to look for possibilities and relationships rather than known facts in addressing their world), highly rated student teachers, and those candidates very certain about becoming a teacher rated their effectiveness as future teachers higher than their sensing, mid or low performing student teaching, and less certain about teaching cohorts. The candidates' university and education grade point average ability indices and their personal/family indices of gender, presence or absence of teachers in the families, parent educational levels, and when they first decided to teach classifications of the candidates, however, did not reveal differences in the anxiety, attitude, and the confidence levels of the candidates.

The findings from the present study support the position of many such as Tabachnick and Zeichner (1984) who indicate that the personal characteristics of the individual also influence the impact of teacher preparation upon teacher candidates. In so doing, these findings of relationships and interactions with teachers' affective development during teacher preparation and with the degree of their transition from students to teachers also appear to provide some possible insights into the inconsistencies reported in the research of teacher development and teacher attrition (Marso & Pigge, 1989). The findings from this longitudinal study also support the position of Pigge and Marso (1992) and Heyns (1988) that attrition from teaching doesn't necessarily reduce the quality of those remaining in the profession. For example, the nonteaching subjects in the sample for this study had reported less positive attitudes toward teaching, more anxiety about teaching, and perceived themselves to be less effective future teachers than had those candidates who became teachers. And, the more capable candidates' attitude toward teaching became more positive during teacher preparation while that of the less capable candidates became less positive. Lastly, the findings in the present study indicate that teacher preparation, itself, does have an impact upon teacher candidates' affective characteristics but that impact may be difficult to assess as affective change during teacher preparation interacts with the academic and personal attributes of the candidates.

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time in preparation interactions were significant as previously noted by the Wilks' Lambda test. These overall findings are presented in Table 1.

Three-Way ANOVAs

The three-way ANOVA procedures, when the academic and personal classifications were added as a second independent variable, identified significant mean differences for the major, ACT, Myers-Briggs, and assurance about teaching classifications for the attitude measure. The Myers-Briggs, assurance about teaching, and locus of control classifications revealed significant mean differences for the anxiety measure; and the Myers-Briggs, student teaching performance ratings, and the assurance about teaching classifications revealed significant mean differences for the effectiveness measure.

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Table 1

2 x 3 MANOVA and ANOVA F-Ratios and Means for the Set of Three Affective Measures: Pre-Post Preparation (Time) and Extent of Transition from Students to Teachers (Group)

A. MANOVA: Wilks' Lambda for the Set of Three Affective Measures

	<u>df</u>	<u>F</u>	<u>p</u>
Time (Soph-Senior)	3,212	28.90	.0001
*Group	6,424	3.11	.0055
Time x Group	6,434	0.50	.8063

B. ANOVAs for the Three Affective Measures

<u>Attitude:</u>	<u>df</u>	<u>F</u>	<u>p</u>	<u>Group*</u>	<u>Sophomore</u>		<u>Senior</u>		<u>n</u>	<u>Total</u>	<u>Tukey**</u>
					<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>			
Group	2,214	6.72	.0015	G1	52.02	5.57	52.10	6.90	62	52.06	A
Time	1,214	0.01	.9315	G2	52.03	5.33	52.67	5.71	84	52.48	A
G x T	2,214	0.18	.8331	G3	49.62	7.48	49.30	7.71	71	49.46	B
				Total	51.34	6.27	51.40	6.89	217		
<u>Anxiety:</u>	<u>df</u>	<u>F</u>	<u>p</u>	<u>Group*</u>	<u>Sophomore</u>		<u>Senior</u>		<u>n</u>	<u>Total</u>	<u>Tukey**</u>
					<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>			
Group	2,214	3.78	.0244	G1	68.66	11.24	61.98	11.57	62	65.32	A
Time	1,214	83.26	.0001	G2	71.61	9.62	63.75	11.01	84	67.68	B
G x T	2,214	0.28	.7564	G3	73.23	9.66	66.55	13.44	71	69.68	C
				Total	71.29	10.23	64.16	12.09	217		
<u>Confidence/Effectiveness</u>	<u>df</u>	<u>F</u>	<u>p</u>	<u>Group*</u>	<u>Sophomore</u>		<u>Senior</u>		<u>n</u>	<u>Total</u>	<u>Tukey**</u>
					<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>			
Group	2,214	3.04	.0500	G1	5.27	0.99	5.42	1.00	62	5.35	A
Time	1,214	2.90	.0903	G2	5.13	0.88	5.39	0.94	84	5.26	AB
G x T	2,214	1.38	.2537	G3	5.04	0.98	5.01	0.95	71	5.03	B
				Total	5.14	0.94	5.28	0.98	217		

* Transition groups: G1 part-time teachers, G2 full-time teachers, G3 certified but not teaching

** Similar letters indicate nonsignificant differences between group means

Table 2

Summary of Significant Subject Academic/Personal Classification F-Ratios and Means for the Three Affective Measures

Affective Measure	Classification									d	F	p
	n	M	SD	n	M	SD	n	M	SD			
Attitude	Major											
	<u>Elementary</u>			<u>Secondary</u>								
	130	52.53	6.03	99	50.18	6.84				1,223	7.28	.0075
	ACT											
	<u>High</u>			<u>Low</u>								
	73	52.86	5.66	81	50.98	6.69				1,148	4.68	.0321
Anxiety	Myers-Briggs											
	<u>Extrovert</u>			<u>Introvert</u>								
	135	52.37	5.83	60	50.55	6.63				1,189	4.05	.0455
	<u>Judging</u>			<u>Perceiving</u>								
	145	52.36	6.09	50	50.19	5.99				1,189	4.05	.0455
	Assurance About Teaching											
<u>Very Certain</u>			<u>Certain</u>			<u>Uncertain</u>						
117	53.21	5.81	91	50.57	6.27	32	47.04	5.69	2,231	14.39	.0001	
Confidence	Myers-Briggs											
	<u>Extrovert</u>			<u>Introvert</u>								
	136	66.41	11.17	60	69.85	11.14				1,190	4.42	.0368
	Assurance About Teaching											
	<u>Very Certain</u>			<u>Certain</u>			<u>Uncertain</u>					
	117	63.72	11.12	92	69.88	10.90	32	74.38	8.82	2,332	19.22	.0001
Confidence	Externality Locus											
	<u>Low</u>			<u>Mid</u>			<u>Hi</u>					
	45	64.19	10.86	64	70.38	11.59	36	66.49	10.75	2,136	5.76	.0040
	Myers-Briggs											
	<u>Sensing</u>			<u>Intuitive</u>								
	97	5.12	0.89	83	5.35	1.00				1,174	4.05	.0458
Confidence	Student Teacher Ratings											
	<u>Low</u>			<u>Mid</u>			<u>Hi</u>					
	55	5.07	1.01	79	5.14	0.98	78	5.44	0.86	2,203	3.43	.0344
	Assurance About Teaching											
	<u>Very Certain</u>			<u>Certain</u>			<u>Uncertain</u>					
	109	5.46	0.92	80	5.02	0.97	31	4.87	0.79	2,211	9.25	.0001

Table 3

Summary of Significant Time in Preparation x Subject Academic/Personal Classifications Interactions for the Three Affective Measures

Dependent Variable: Attitude				
<u>Interactions</u>	<u>df</u>	<u>F</u>	<u>p</u>	<u>Figure*</u>
Time in Preparation x ACT Classification	1,148	4.09	.0448	1
Time in Preparation x CTBS Classification	1,234	8.18	.0046	2
Time in Preparation x Assurance Classification	2,231	14.69	.0001	3
Dependent Variable: Confidence				
Time in Preparation x Assurance Classification	2,211	3.67	.0271	4
Dependent Variable: Anxiety				
Time in Preparation x Major Classification	1,224	6.67	.0104	5
Time in Preparation x Extrovert-Introvert	1,190	6.08	.0146	6

* The means for these interactions are graphed in Figures #1 - #6.

Figure 1

Time in Preparation X Level of ACT Interaction
Dependent Variable: Attitude Toward Teaching

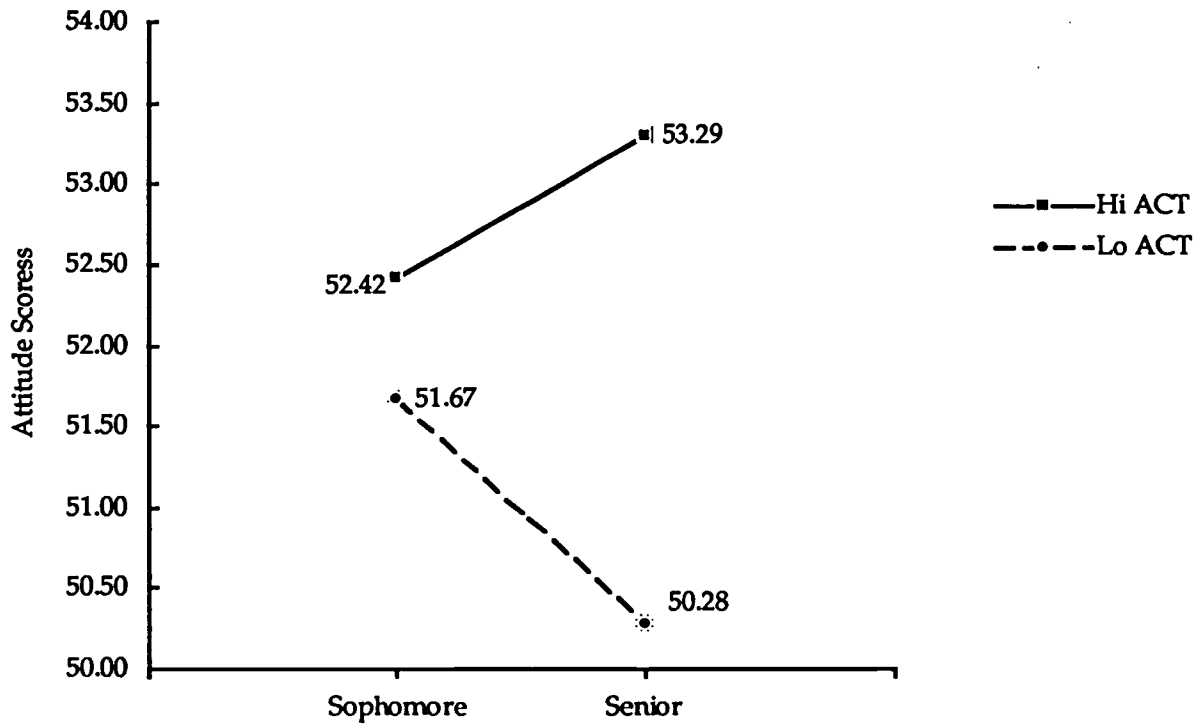


Figure 2

Time in Preparation X Level of CTBS Interaction
Dependent Variable: Attitude Toward Teaching

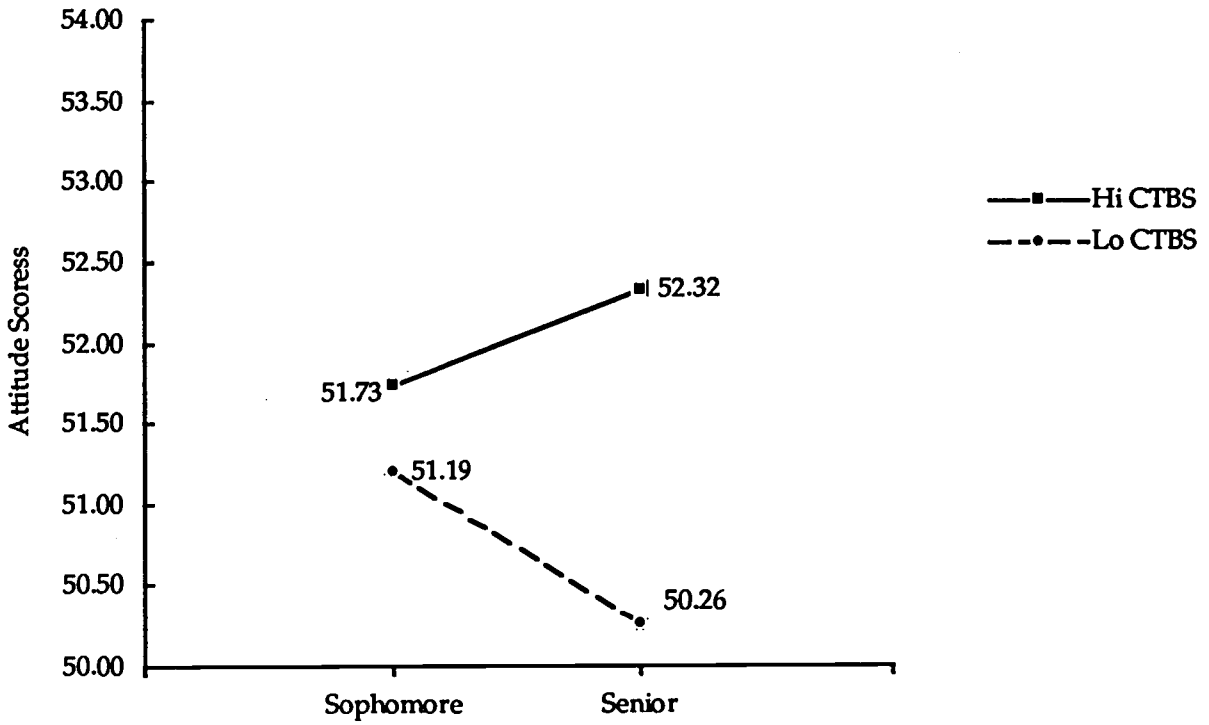


Figure 3

Time in Preparation X Assurance About Teaching Interaction
Dependent Variable: Attitude Toward Teaching

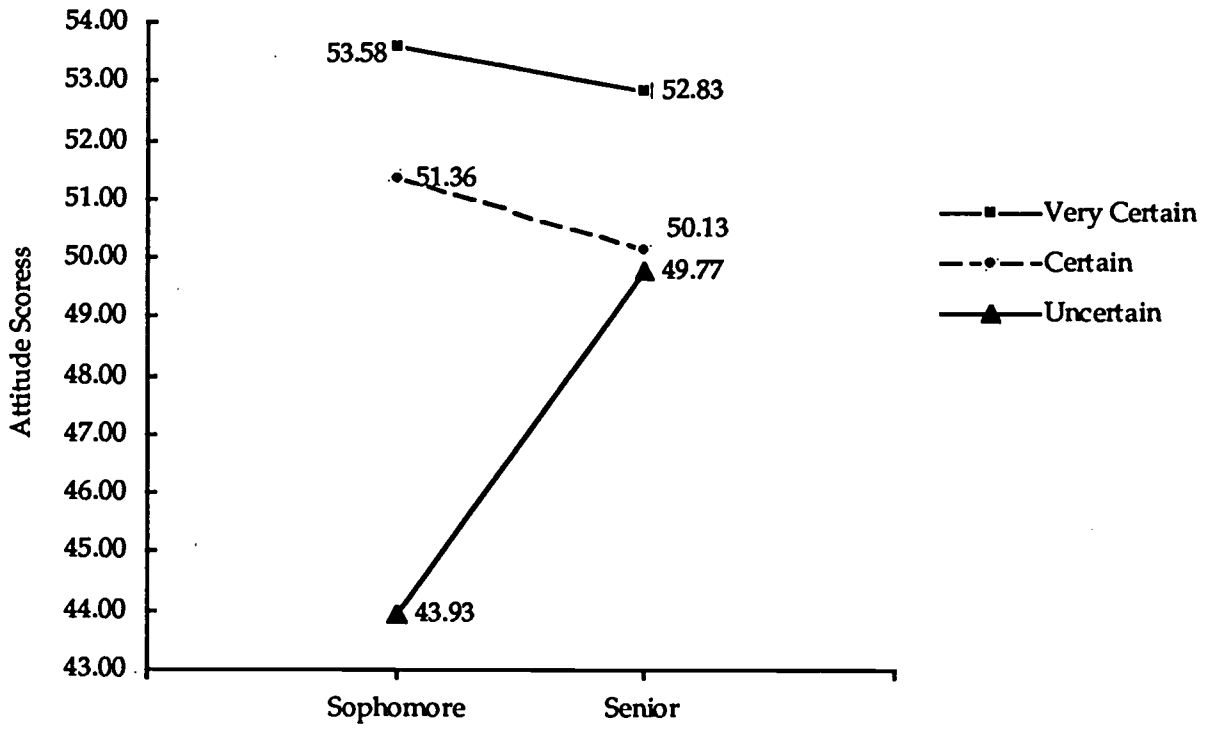


Figure 4

Time in Preparation x Degree Assurance About Teaching Classification
Dependent Variable: Confidence as Teacher

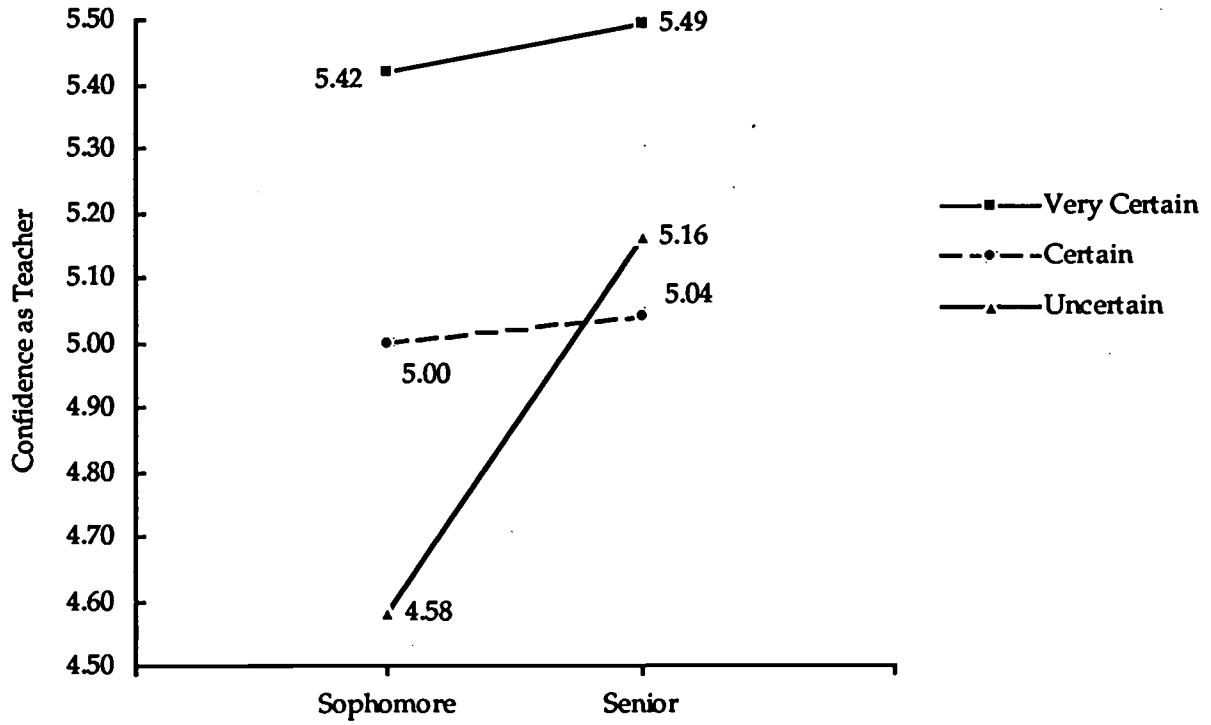


Figure 5

Time in Preparation x Major Classification Interaction
Dependent Variable: Anxiety About Teaching

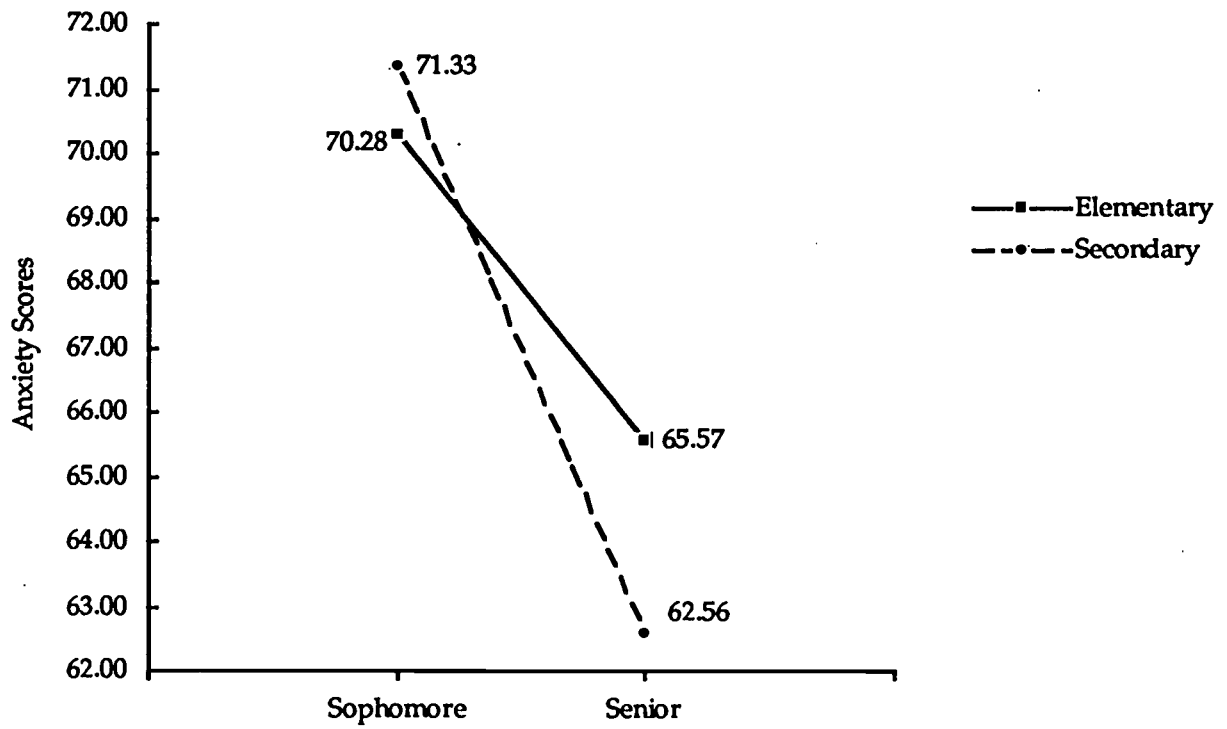
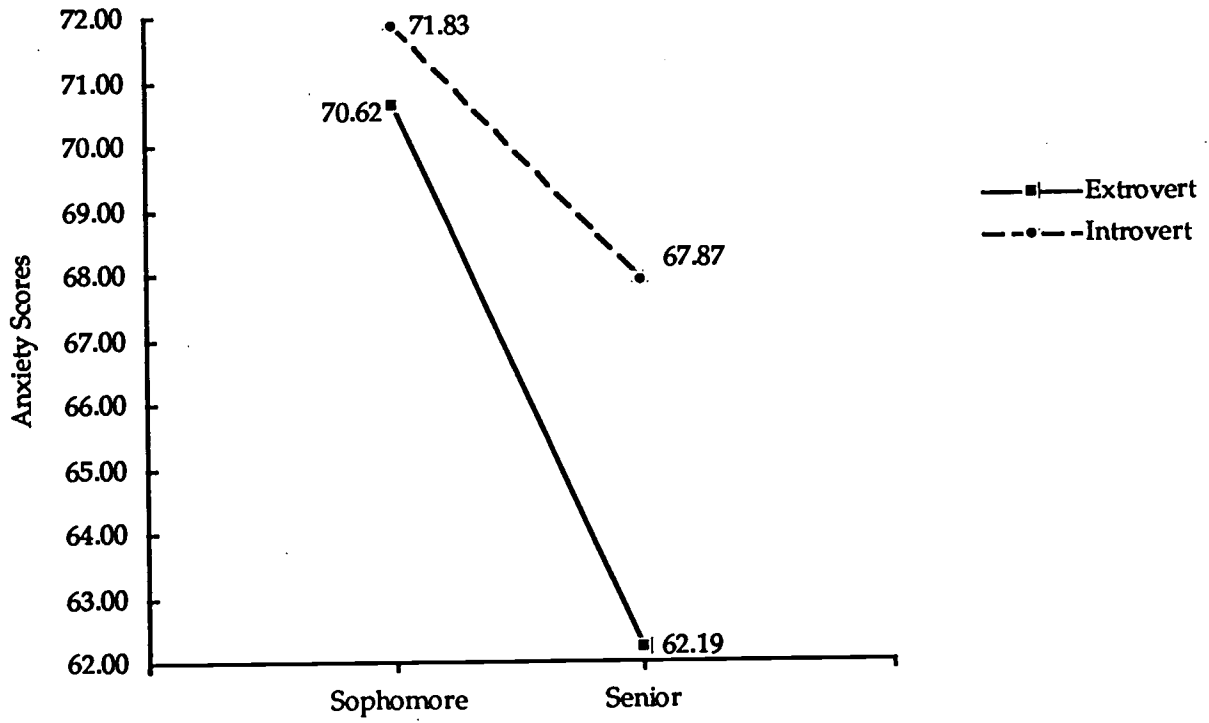
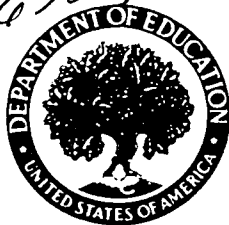


Figure 6

Time in Preparation x Myers-Briggs Extrovert-Introvert
Dependent Variable: Anxiety About Teaching



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