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ABSTRACT

A preliminary study was conducted of the University of Southern California Metropolitan Teacher Education Program, a 5-year program designed to ensure a "tight connection" with the metropolitan schools in the area, with emphasis on the development of professional collegial "teams" of master teachers in inner city schools, program coordinators, faculty, and student teachers. Both graduates and school principals who had hired graduates of the program were surveyed. First-year teachers (n=108) were asked to reflect on their preservice teacher education experiences and how well prepared they felt to accept a first-year teaching assignment; the school principals were asked to respond to the same items. Results of the study suggested that methods of instruction and student teaching elements are functioning effectively. Analysis of the data indicated agreement between first-year teachers and their principals that perception of overall preparation for first-year teaching was good; there was also agreement that graduates' subject matter preparation was not good, though there was agreement that graduates' procedural and technical skills were high. Additionally, findings suggested the overall preparedness for both graduates and principals was primarily related to the procedures of instruction, with little or no relationship to subject matter knowledge, pre-student teaching academics, and professional socialization and development. (Contains 24 references, 1 figure, and 4 tables.) (ND)

USC Metropolitan Teacher Education Program: a Follow-up of Its Graduates

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In 1987-1988, the State of California Commission on Teacher Credentialing approved a proposal to conduct a five-year "experimental" teacher education program. In the aggregate, the program components implemented over the five-year period were designed to ensure a "tight connect" with the metropolitan schools in the area, with particular emphasis on the development of professional colleagial "teams" made up of master teachers in inner city schools, program coordinators, faculty and student teachers.

Considerable investment had been made in designing the process and refining its many component parts (see e.g., Lemlech, 1991 and Grayson, 1993). However, in our final report, we wanted to show some evidence of the effectiveness of our process under natural and largely unsupported conditions. However consistent with the literature our finely tuned processes are, we still have to hold ourselves accountable for specifying and monitoring critical outcomes that might provide some measure of external validity to the process. Such evidence should also provide us with a platform to formally communicate our empirically validated wisdom to a larger audience.

What we needed at the time of our five-year final report were:

1] an architectural design of the entire process that was research and/or literature based and internally consistent;

2] implementation evidence indicating that the process had indeed been faithfully installed; and

3] documentation providing some evidence (qualitative and quantitative) that expected outcomes (both process and product) were being realized.

What did we think we had at hand? We had excellent background covering the design aspects of our program (see, e.g., Lemlech & Kaplan, 1990; Lemlech, 1991; Grayson, 1993). We accepted on faith that implementation was on target, but no detailed documentation was available. Our only lament was that we had scant evidence and no documentation attesting to the external validity of the program.

What did we do under these circumstances? In the time available, we decided to design a study that would stand as a surrogate for a more substantial program evaluation. We constructed a self-report questionnaire with an item-sampling framework that included all of the critical design attributes of our program. Using this instrument as the basis, we obtained responses from both our graduates and a sample of school principals who had hired our graduates. Through the use of factor analytic techniques, some scaling and equating response patterns of graduates and their supervising teachers, we think we were able to tease out some validity data that provides a bit of evidentiary force to our clinical notions that the process is indeed effective.

Follow-Up Instrument and Sample

The 108-item Likert-type questionnaire asked first year teachers to reflect on their preservice teacher education experiences and indicate their perceptions of the value of the experiences and how well prepared they felt they were to accept a first year teaching assignment. Format and content of the

instrument were strongly influenced by the performance objectives, skills, functions and content represented in the program proposal submitted to the State, -- as aligned with the actual program we implemented. In addition, an attempt was made to position the instrument so that our findings might bear on some of the contemporary views reflected in the extant literature, e.g.:

1] definitions of teaching task domains (e.g., Reynolds, 1992);

2] overarching model involving the interaction of teacher characteristics with context, process and student performance (e.g., Shulman, 1986);

3] models, modeling and colleagiality in the teacher development process (e.g., Lemlech and Kaplan, 1989);

4] the long-term development view as a teacher progresses from novice to expert (e.g., Berliner, 1988; Kagan, 1992).

In addition to a number of items related to current assignments, teacher preparation background, etc., 95 items organized into <u>five</u> logically derived components asked the teacher to respond using a five-point Likert item type. The five components were:

1] <u>Program Advisement</u>: extent to which student received adequate information related to the program (3 items);

2] <u>Pre Student Teaching Course and Field Activity</u>: a retrospective on the value attached to the courses and experiences that came <u>prior</u> to the methods and student teaching sequence (16 items);

3] <u>Subject Matter Preparation</u>: perceived strength of subject matter preparation (16 items);

4] <u>Methods and Student Teaching</u>: adequacy of the methods courses and student teaching experiences (33 items);

5] <u>General and Overall</u>: degree of agreement with each of eight preparedness statements (8 items).

It is important at this point to remind ourselves that the instrument constructed was a self-report. The item sampling universe contained no item that could be construed at the outset as a hard or direct measure of first year teaching effectiveness. Thus, by itself, the self-reported perceptions of first year well-being do not constitute an acceptable proxy or surrogate for an external appraisal of first year teaching effectiveness. However, one of the design features of this study was to include other information that might be used to "triangulate" a reasonable approximation of teaching effectiveness, as well as evidence that the design dimensions of the process itself had some empirical support.

Rating instruments were sent to all 250 multiple subject graduates who applied for a preliminary or professional credential during 1989-90-91. The sample of usable returns (n=102) was shown to be representative of the population.

A sample of school principals from among those who had employed the graduates during 1990 and 1991 was contacted and asked to complete a rating form containing many of the same items that the graduates responded to. A total of 25 supervising principals (out of 30 contacted) returned completed rating forms.

Designing the Scales

The original development of the questionnaire organized the 95 items around the rubrics representing the logic of our teacher education program design (see Table 1). One purpose of this paper was to empirically validate the logic and to demonstrate that beginning teachers are able to to provide sensitive and

differentiated ratings of preservice process behaviors and functions as they relate to first year teaching (after Baker, Mednick & Hocevar, 1991). Thus, a series of overlapping factor analyses yielded 14 scales; an additional 8 scales were single items. Item-to-scale correlations and Cronbach alpha coefficients were used as measures of the homogeneity of each of the 14 scales. Scale descriptors were assigned on the basis of what each factor's constituent items seemed to suggest. As shown in Table 2, the alpha reliabilities were robust, ranging from a low of .77 to a high of .94. The results of the factor analyses yielded a factor structure which was quite congruent with the logically derived design and structure of our teacher education program.

Results

A number of issues and related analyses were addressed in the overall study (e.g., single vs double student teaching assignment, basic vs accelerated teacher education sequences). However, for purposes of this presentation, we will focus on two of the most important sets of findings and a summary of how this study has informed us.

The first analysis was an attempt to link student perceptions with the perceptions of their supervisory principals. The principals were all school unit leaders responsible for the instructional effectiveness of their schools. The items used were the same items used in the graduates' survey to estimate preparedness for first year teaching. The responses were scored in the same way, yielding common scale scores for the relevant scales. The data show that the two groups of raters had slightly different "response sets" when they completed the forms. In order

to determine the extent of principal-graduate congruence, the two profiles were equated by computing the means and standard deviations of the 14 mean scale scores for each group and transforming scale scores into standard scores (T-Scores). The converted mean scale score for both groups was 50 and the standard deviation was 10. The congruence between the two standard score profiles was striking. The supervising principals' profile of converted ratings reflected the same perceived strengths and weaknesses as those reported by the graduates. This is shown in Figure 1. Table 3 shows the descriptive statistics and perceived absolute adequacy codes, by scale. Since there was great agreement between principals and graduates with respect to overall preparation for first year teaching, there is some justification for considering the individual graduate's scale score (SC16) as a reasonable surrogate for one external rating of first year teaching preparedness.

Interestingly, both principals and graduates shared the perception of weakness in preparation to teach the subject areas (excepting mathematics where principals judged the graduates to be fairly well prepared). Yet, both groups indicated strength in ability to integrate the subject areas. A little speculative triangulation suggests that since the integration of the subject areas as an item was more highly correlated with SC3 (Instructional Planning, r=.42) than with SC11 (Common Skills Subject Matter Preparation, r=.27), that further study needs to be done to clarify which of the following suggestions best characterizes the issues involved:

a] subject coverage and knowledge are adequate, but the pedagogical "connectors" necessary to actually teach it have not been assembled;

b] subject matter coverage and knowledge are inadequate and although the pedagogical "connectors" may have been assembled, it would be like learning to throw a ball without a ball; or

c] one or a little of both of the above, exacerbated by a third ingredient that overlaps and connects subject matter content and methods of teaching it: i.e., content that has been appropriately restructured and organized for ready use in methods instruction.

In our second set of analyses, we focussed on identifying the preservice correlates of student perceptions of "overall preparedness for first year teaching" (not to be confused with "effectiveness"). Table 4 shows the zero-order correlation matrix for the 21 scales. The scale numbers in the table correspond to the scale numbers identified in Tables 1 and 2. Scale 16, "Overall adequacy of preparedness for first year teaching" (our new-found proxy for effectiveness) was regressed on three sets of predictor variables (i.e., other preservice scales), each analysis informing the subsequent one. Analysis 3 resulted in the best explanation or prediction of perceived overall preparation, as follows:

1] Instructional Planning;
2] Instructional Processes;
3] Model Master Teachers;

4] Transition form the Academy to the Classroom;
5] Teaching Higher Order Mental Skills;
6] Instructional Design and Development;
7] Assessing Individual Differences and Managing Instruction.

The above list is in the order of contribution to the solution. Only the first three scales were needed to explain the variance. The results for the three significant contributors were: R=.7894; R^2=.6231; Betas 1=.4561; 2=.3415; 3=.1816.

This analysis included five of the six methods instruction and student teaching scales, along with Transition from the Academy to the Classroom (SC10). Table 2 shows the questionnaire items that made up each of the scales. The two previous (unreported) regression analyses suggested that there are likely <u>two</u> classes of linkages or connections that need attention in our new five-year agreement:

> 1] Transformation of abstract concepts and theoretical knowledge into procedural knowledge that is systematically used or applies in student teaching or practice (consistent with, e.g., Wilson, Shulman & Rickert, 1987).
>
> 2] The apparent importance of dealing directly with the student's developing image of self as a teacher (consistent with, e.g., Berliner, 1986; Bullough 1991; Sabers, Cushing & Berliner, 1991; Kagan, 1992).

In the aggregate, all of the analyses suggested that the methods of instruction and student teaching elements are functioning rather effectively. Is seems clear, for example, that Instructional Planning (SC3) contained not only the unique contribution that can be characterized as the "procedural" elements of the common variance shared with many of the other scales -- but especially Teaching Higher Order Mental Skills (SC1). The data demonstrate the importance of <u>not</u> trying to plan something that is <u>not</u> understood. Internal to the methods instruction and student teaching component of the program, the linkage seems to be strong. In a slightly different way, the mentoring teachers' (SC17) unique contribution was that they were able to further reduce the abstract nature of the concepts and procedures learned in the instructional design and development activities. Here again, the mentoring teachers' greatest

successes will be with those students who already have considerable competence in Instructional Design and Development (SC5) activities.

The fact that, in spite of its temporal distance from first-year teaching, Transition from the Academy to the Classroom (SC10) was not eliminated from the equation until the very last suggests the importance of early attention to developing the linkages between foundational coursework and student teaching -- and beyond.

There were also data signs that the potential positive contributions that can be made by the "model" teachers have not been fully realized. The "model" teachers, along with the USC field supervisors, are critical to ensuring that the linkages are in place to successfully move the graduate beyond Stage I in Berliner's (1988) model of teacher development, as enhanced by Kagan (1992). It then becomes our responsibility to provide continuing education support for the graduates as they progress.

Summary Comments

The majority of findings in the study support the theme that if we are to change prevailing practices, we must fashion a new set of expectations for both the prospective teacher and the receiving supervising principal. The new sets of expectations must be supported by a high degree of colleagiality along with generalizable, quality verified materials and procedures -- lest both the prospective teacher and the principal find it necessary to regress to an earlier, less effective model (see Lemlech, 1991 and Grossman, 1992:p176).

Second, when the analyses completed were juxtaposed in several ways, the following pattern of summary statements seemed warranted:

a] There was remarkable agreement between first year teachers and their principals that overall preparation for first year teaching was good.

b] This was in the face of a remarkable agreement that the graduates' subject matter preparation was not so good (excepting language arts).

c] But, again, there was remarkable agreement that the graduates' procedural and technical skills were quite high;

d] This was accompanied by high correlations between the procedures of instruction and the perception of overall preparedness for both graduates and principals.

e] All of the above was capped off by empirical verification that the perception of overall preparation was primarily related to the procedures dimension, with little or no relationship with the other dimensions (i.e., subject matter knowledge, pre student teaching academics, and professional socialization/development).

This hybred triangulation of data points to the suspicion that circumstances might have encouraged both teachers and principals to view the world of teaching largely through a procedural lense. Why else would both their ratings of overall preparation remain high in the face of a perception that they do not have adequate subject matter preparation? Perhaps it is as Buchanan (1983, 1984 - as reported by Lanier and Little, 1986) -- implies, teachers who have limited subject matter knowledge develop a dependence on the curriculum material developed by others. In other words, the extant operational definition of preparedness may rest primarily on the ability to manage a classroom and a deft facility with manuals and procedures supporting commercially prepared curriculum materials.

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Table 1

Empirically Derived Scales By Questionnaire Section

1] Program Advisement

SC21 Adequacy of Program Advice

2] Pre-Student Teaching Course and Field Activity

SC7 Individual Assessment and Program Evaluation
SC8 Teacher-Student Interaction Skills
SC9 Psycho-Social Foundations Courses
SC10 Transition from the Academy to the Classroom

3] Subject Matter Preparation

SC11 Common Skills: Math, Science, Social Science
SC12 Art
SC13 Physical Education
SC14 Music
SC15 Language Arts

4] Methods and Student Teaching

SC1 Teaching Higher Order Mental Skills
SC2 Assessing Individual Differences and Managing Instruction
SC3 Instructional Planning
SC4 Professional Communication
SC5 Instructional Design and Development
SC6 Instructional Processes

5] General and Overall

SC16 Overall Preparation for First Year Teaching
SC17 Model Master Teachers
SC18 USC Support During First Year of Teaching
SC19 Academic Experiences Prior to Student Teaching
SC20 Value of Colleagial Experiences

Table 2

Scales: Items and Alpha Reliabilities

(Scales 1 to 6 and items 65 to 105 correspond to Section VI, Methods and Student Teaching, of the Survey)

Scale	Alpha	Scale Descriptor
Sc1	.94	Teaching Higher Order Mental Skills
		88 Work colleagially
		89 Teach critical thinking skills
		90 Teach concepts
		92 Teach problem solving skills
		94 Teach factual information
		95 Engage students in inquiry
		96 Teach specific skills
Sc2	.85	Assessing Individual Differences and Managing Instruction
		67 Teach culturally diverse groups
		74 Diagnose student errors and prescribe instruction
		75 Evaluate/grade student performance
		76 Use teacher manuals and texts
		79 Effectively group students for special needs
		83 Use appropriate classroom management techniques
Sc3	.83	Instructional Planning
		65 Develop year-long curriculum plans
		66 Develop lesson plans
		68 Align lesson plans with objectives
		91 Engage in professional inquiry
		97 Provide a lesson overview or structure
Sc4	.91	Professional Communication
		85 Conduct conferences with students
		86 Conduct conferences with parents
		87 Conduct conferences with other professionals
Sc5	.86	Instructional Design and Development
		69 Design teaching units
		70 Integrate subject fields into lessons
		72 Construct instructional materials
		73 Design learning centers
		81 Use technology to support instruction
		82 Use manipulatives to support instruction
		84 Use appropriate language acquisition techniques

Sc6 .84 Instructional Processes

71 Create a positive classroom environment
77 Use a variety of discussion techniques
78 Use appropriate questioning techniques
80 Teach varied ability levels
93 Use appropriate techniques for motivation

Scales 7 to 15 and items 28 to 50 correspond to Section IV (Pre Student Teaching Course and Field Activiy) and Section V (Subject Matter Preparation) in the Survey.

Sc7 .80 Individual Assessment and Program Evaluation

40 Program evaluation design
41 Authentic or "portfolio" assessment
42 Critical reviews of published articles
43 Thinking skills and higher mental processes

Sc8 .66 Teacher-Student Interaction Skills

28 Child language development
35 Individual tutoring skills
36 Small group teaching skills

Sc9 .77 Psycho-Social Foundations

29 Child and adolescent development
30 Learning principles and theory
31 Cultural diversity and American education
32 Social class and differences in values
33 Life in a metropolitan "inner city"

Sc10 .78 Transition from the Academy to the Classroom

34 Classroom observation skills
37 Supervision of my field work
38 Integration of class and field work
39 Assessment of student progress

Sc11 .77 Common Skills Subject Matter Preparation

44 Mathematics
45 Sciences
46 Social Sciences

Sc12 --- Single-item scale

47 Art

Sc13 --- Single-item scale

48 Physical Education

Sc14 --- Single-item scale

49 Music

Sc15 --- Single-item scale

50 Lanuage Arts

Scales 16 to 20 and items 98 to 105 correspond to Section VII (General and Overall) of the Survey

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Sc16 .83 Overall Preparation for First Year of Teaching

103 On balance, I was (am) well prepared for my first year of teaching.
105 Compared to the teaching faculty I have joined, I feel that my preparation measures up very well.

Sc17 .94 Model Master Teachers

99 I consider my first master teacher a "model" professional.
100 I consider my second master teacher a "model" professional.

Sc18 --- Single-item scale

104 I received adequate support from USC during my first year of teaching.

Sc19 --- Single-item scale

98 The academic experiences <u>prior</u> to student teaching adequately prepared me for student teaching.

Sc20 --- Value of Colleagial Experiences

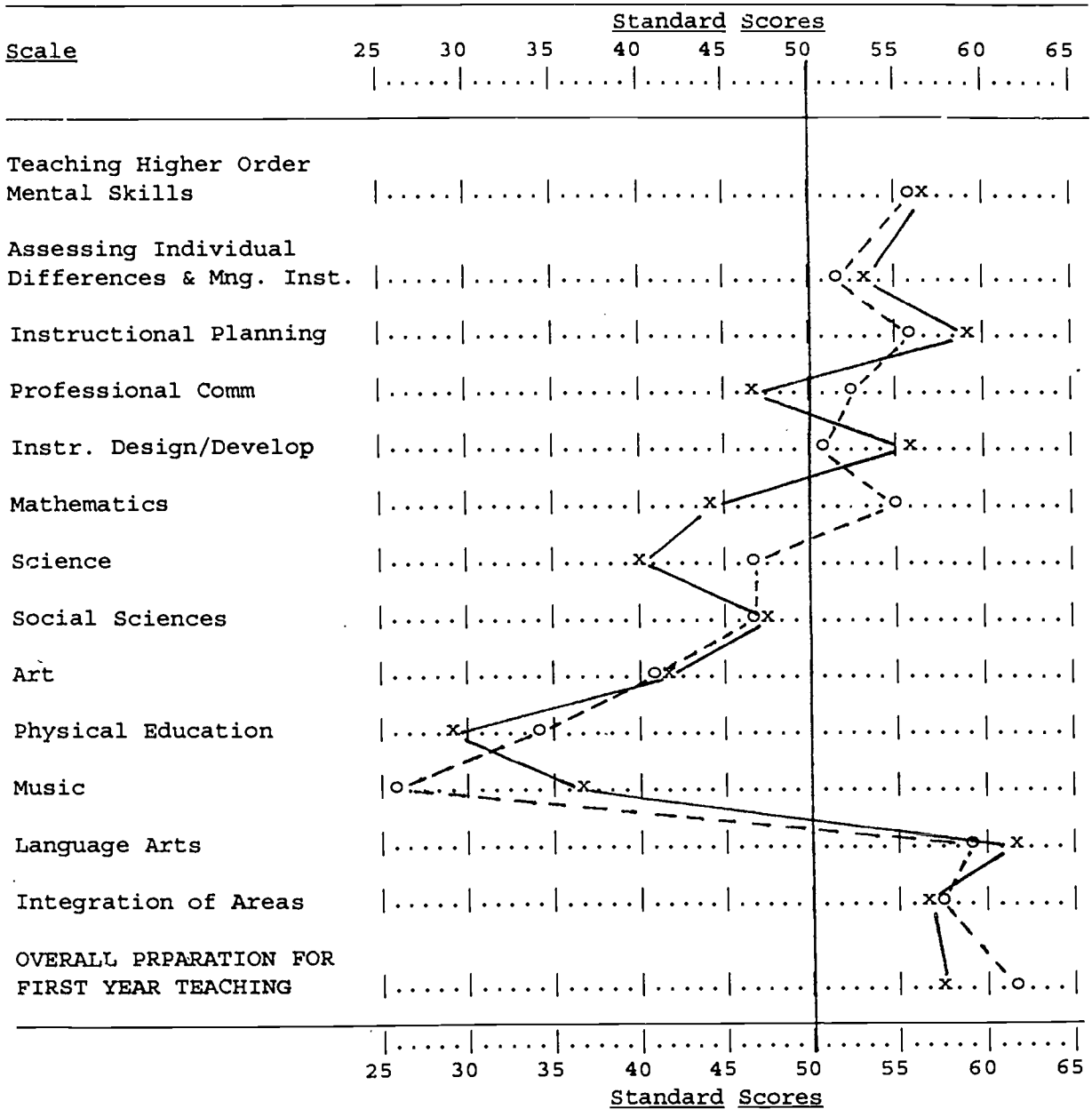
101 Colleagial preparation helped me better understand professional relationships.
102 Colleagial preparation helped me better reflect on teaching processes and classroom management.

ADV .78 Adequacy of Program Advice

25 Requirements for the bachelor's degree.
26 Requirements for the master's degree.
27 Requirements for the credentials.

Figure 1

Standard Score[1] Comparisons for
Graduates and First Year Supervising Principals



[1] Mean scale scores for the two groups were converted to standard scores (T), based on the distribution of scale scores for each group, separately. The mean for each group is 50, with a standard deviation of 10.

Graduates x————x; Principals o---------o

Table 3

Descriptive Statistics and Perceived Adequacy Codes, by Scale (N=102)

Scale	Descriptor	Mean	St Dev	Alpha	Adequacy Code[1]
Methods and Student Teaching					
SC1	Teaching Higher Order Mental Skills	38.52	7.79	.94	+
SC2	Assessing Individual Differences and Managing Instruction	36.50	7.72	.85	+
SC3	Instructional Planning	39.61	7.10	.83	+
SC4	Professional Communication	32.67	11.32	.91	-
SC5	Instructional Design and Development	38.01	7.17	.86	+
SC6	Instructional Processes	39.90	7.55	.84	+
Pre Student Teaching					
SC7	Individual Assessment and Program Evaluation	32.15	8.83	.80	-
SC8	Teacher-Student Interaction Skills	35.04	9.29	.66	o
SC9	Psycho-Social Foundations	35.73	8.15	.77	o
SC10	Transition from Academy to the Classroom	37.28	8.80	.78	+
Subject Matter Preparation					
SC11	Common Skills Subject Matter Preparation	32.26	9.27	.77	-
	11.1 Mathematics	31.31	12.04	---	-
	11.2 Science	29.34	12.09	---	-
	11.3 Social Science	33.54	10.57	---	o
SC12	Art Instruction Preparation	30.37	12.52	---	-
SC13	Physical Education Instruction Preparation	24.94	12.13	---	-
SC14	Music Instruction Preparation	26.24	13.09	---	-
SC15	Language Arts Instruction Preparation	40.77	9.80	---	+
Overall					
SC16	Overall Preparation for First Year of Teaching	38.75	10.29	.83	+
SC17	Model Master Teachers	36.67	10.22	.94	+
SC18	Support from USC During First Year	24.42	13.66	---	-
SC19	Courses Prior to Student Teaching	29.38	10.68	---	-
SC20	Value of Colleagial Experiences	33.49	11.15	.86	o
SC21	Adequacy of Program Advisement	32.41	9.42	.78	-

[2] Based on 30.00 as the mid position between inadequate or unprepared (10.00) and very adequate or well prepared (50.00). the following codes have been arbitrarily assigned to indicate perceived strengths and weaknesses in student preparedness:

+ = perceived strength
- = perceived weakness
o = perceived as adequate, but borderline

Table 4

Correlation Matrix: Scales 1 to 21

Scale	SC1	SC2	SC3	SC4	SC5	SC6
SC1	1.0000					
SC2	.7233**	1.0000				
SC3	.7965**	.6588**	1.0000			
SC4	.6015**	.7522**	.4353**	1.0000		
SC5	.7896**	.6604**	.7175**	.5281**	1.0000	
SC6	.7928**	.8091**	.6615**	.6323**	.7656**	1.0000
SC7	.4530**	.3708**	.3768**	.3550**	.3752**	.4169**
SC8	.3503**	.3089*	.2217	.3131*	.4089**	.3651**
SC9	.4728**	.3886**	.3455**	.3917**	.4721**	.4624**
SC10	.4004**	.4535**	.3799**	.2965*	.4581**	.4967**
SC11	.2465	.2954*	.2828	.3125*	.1350	.1818
SC12	.1854	.3056*	.1563	.2987*	.2410	.1151
SC13	.0517	.2281	.0968	.2139	.0673	.0941
SC14	.0271	.0120	.0359	.0435	.0939	-.0189
SC15	.4562**	.3441**	.3877**	.2591	.4302**	.4141**
SC16	.6872**	.6266**	.7435**	.5048**	.6684**	.6580**
SC17	.0495	.0606	.1503	.1431	.1990	.0661
SC18	.3001*	.2629	.2532	.2884*	.1798	.1618
SC19	.2999*	.3866**	.2301	.2700*	.3137*	.4165**
SC20	.3799**	.3611**	.2536	.3440**	.3545**	.3502**
SC21	.2246	.2080	.1935	.2430	.1936	.2014

Scale	SC7	SC8	SC9	SC10	SC11	SC12
SC7	1.0000					
SC8	.5516**	1.0000				
SC9	.5655**	.5751**	1.0000			
SC10	.5633**	.5572**	.5025**	1.0000		
SC11	.1623	.2172	.2365	.1745	1.0000	
SC12	.1954	.3455*	.1603	.2202	.4265**	1.0000
SC13	.0717	.0602	.0057	.0477	.3373*	.4002**
SC14	.0175	.0063	.1890	-.0353	.0310	.3895**
SC15	.3224*	.3465*	.3300*	.4406**	.2898*	.4485**
SC16	.3783**	.3502**	.3623**	.5196**	.2919*	.2091
SC17	.0225	-.0391	.0374	.0423	.1880	.0891
SC18	.3311*	.1396	.2875*	.2290	.3796**	.1264
SC19	.2969*	.4193**	.1908	.3827**	.0355	.1639
SC20	.4004**	.1723	.2223	.2226	.0651	.1253
SC21	.3205*	.2707	.2204	.2092	.0906	.1868

Scale	SC13	SC14	SC15	SC16	SC17	SC18
SC13	1.0000					
SC14	.3417*	1.0000				
SC15	.2136	.3255*	1.0000			
SC16	.0809	.0483	.3605**	1.0000		
SC17	.0548	.1414	.0106	.2242	1.0000	
SC18	.1881	-.0836	.1082	.3042*	.2897*	1.0000
SC19	.1687	.2226	.2915*	.3494**	.0669	-.0207
SC20	.1229	.1370	.2757*	.3510**	.3505*	.2472
SC21	.1019	-.0206	-.0904	.2750	.0155	.1002

Scale	SC19	SC20	SC21
SC19	1.0000		
SC20	.4107**	1.0000	
SC21	.1524	.0800	1.0000