DOCUMENT RESUME

ED 323 628 EA 022 201

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TITLE Formal Induction vs. Informal Mentoring: Comparative Effects and Outcomes.
PUB DATE Apr 90
NOTE 27p.; Paper presented at the Annual Meeting of the American Educational Research Association (Boston, MA, April 16-20, 1990). Research partially supported by a grant from the Andrew W. Mellon Foundation awarded to the State Department of Education.
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Beginning Teacher Induction; *Beginning Teachers; Classroom Observation Techniques; Collegiality; Elementary Education; Higher Education; *Mentors; Professional Development; Teacher Attitudes; Teacher Education Programs; *Teacher Evaluation; *Teacher Orientation; Teamwork
IDENTIFIERS *Idaho

ABSTRACT

The comparative effects and outcomes of two beginning teacher induction programs--a formal team approach and an informal buddy system--on novice teaching performance and teacher attitudes toward teaching are examined in this study. The sample of 26 novice elementary teachers included one male. Fourteen participated in the structured team approach and 12 participated in the buddy system. Findings from interviews, observation, and an attitude questionnaire indicate that structured induction programs with clearly designed goals and expectations, formal observation, and feedback are viewed by teachers as more successful in meeting their needs. Participants in the formal model were generally more satisfied with various dimensions of their job. Both groups expressed negative attitude toward salary and resource adequacy and demonstrated less effective postinduction teaching performances. The recommendation is made for collaboration between state departments of education and universities to provide structured teacher induction programs that emphasize assistance rather than evaluation, and careful selection of the mentor teacher. Two statistical tables and appendices that contain the interview guide and qualitative analysis are included. (21 references) (LMI)

Formal Induction vs. Informal Mentoring: Comparative Effects and Outcomes

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Paper presented to the annual meeting of the American Educational Research Association, April 16-20, 1990, Boston, MA.

This research was partially supported by a grant awarded to the State Department of Education, Boise, Idaho by the Andrew W. Mellon Foundation.

Formal Induction vs. Informal Mentoring:

Comparative Effects and Outcomes

Research on beginning teachers concludes that they often lack, and know they lack, competence in planning for instruction, evaluating student work, motivating students, and adjusting to the classroom environment (Griffen, 1985). This lack of competence is often compounded by problems beginning teachers face, including the pressures raised in adjusting to the demanding life of a teacher and the realities of teaching compared to the expectations. The pressures encountered by beginning teachers apparently are enough to discourage many from staying beyond the first few years of teaching (Veenman, 1984).

In response to these problems, a growing number of states and individual school districts have established induction programs designed to provide beginning teachers with assistance during their first years of teaching. Program models range from formalized induction programs to informal mentoring or buddy systems and vary in terms of whether they are university-based or school district-based, structured or unstructured. The proliferation of programs has precipitated the need for research investigating the relative effectiveness of various induction models. While the literature provides extensive information outlining the needs of beginning teachers and lessons from exemplary programs, little empirical data exists regarding the comparative effects and outcomes of different induction models.

Purpose of Study

In attempting to determine which system for induction of new teachers would be most effective if implemented in southeastern Idaho, the present

study examined two models utilized to provide assistance to beginning teachers: a formal induction program incorporating a team approach (mentor, administrator, and representative from higher education) contrasted with an informal buddy system approach. The study employed both qualitative and empirical analyses to address the following questions:

1. What are the comparative effects and outcomes of the two programs with regard to the teaching performance of participating novice teachers?

2. What are the comparative effects and outcomes of the two programs with regard to attitudes toward teaching of participating novice teachers?

3. Are the benefits between participation in a loosely conceived buddy system model and a tightly conceived induction team model substantial enough to warrant the recommendation of one approach over the other?

Method

Subjects

Over a two year period, 26 novice elementary-school teachers from three school districts participated in the study. Two of the districts consisted of rural schools in southeastern Idaho with a combined school population of 4,130 students. The third district served a small city in southeastern Idaho with a school population of 13,216 students. Faculty populations of the participating schools ranged from 8 to 40 teachers with an average of 20 teachers.

During the first year of the study, 8 of the novice teachers were in their first year of teaching while 9 were in their second year of teaching. Nine first-year teachers participated during the second year of the study. The total sample of beginning teachers included 25 females and one male ranging in age from 20 to 45 years.

A total of 14 of the 26 novice teachers were randomly assigned to the team approach while 12 were randomly assigned to the buddy system approach. Beginning teachers who participated in the study represented a range of teaching abilities from average to superior as judged by their university student teaching supervisors. All study participants, regardless of induction model, completed the academic teaching year and, thus, the present study.

Procedures

Mentor and novice teachers assigned to the buddy system approach were directed by the principal investigator to meet with each other in order that the experienced member of the dyad could provide assistance to the beginning teacher by way of suggestions, solutions to problems, and instructional planning. There was not a set number of hours that the participants were required to meet nor were any guidelines given to the experienced mentor teacher concerning the areas where assistance might be provided.

Novice teachers assigned to the induction team approach were required to be observed for a two-hour period on a monthly basis during the first semester and semi-monthly during the second semester by all team members (i.e., mentor, principal, and representative from higher education). During the observations, team members employed a supervision model based on that recommended by Cogan (1972). Novice teachers and team members were also required to attend four team meetings (two each semester) during which the induction program and the results of the observations were discussed and the novice teachers were made aware of their strengths as well as areas of concern. Mentor teachers were asked to spend approximately 72 hours

working with the novice teacher throughout the year; these hours included observation periods and team meetings. The principal investigator acted as a participant-observer throughout the study serving on induction teams and collecting data in the form of field notes.

Novice teachers and mentors involved in both induction models were interviewed by four trained investigators at the end of the academic year. A facsimile of the structured interview protocol appears in Appendix A. Audiotapes of the interviews and field notes made by the principal investigator were later analyzed employing methods recommended by Bogdon and Taylor (1975) and Pelto and Pelto (1978) for qualitative research studies.

Novice teachers involved in both induction models were also videotaped for the duration of two lessons, once during the first three weeks and once during the last three weeks of the academic year. The audiotapes were then analyzed by the principal investigator and nine trained observers using two instruments from the Teacher Performance Assessment Instruments, Classroom Procedures and Interpersonal Skills (Capie, Johnson, Anderson, Okey, & Ellett, 1979). Interrater reliability indices computed prior to the videotape assessments indicated interrater reliability indices of approximately 89% for the ten observers.

In addition to the audiotaped lessons, the novice teachers also completed the Purdue Teacher Opinionaire (Bentley & Rempel, 1980) two times each, once during the first three weeks and once during the last three weeks of the academic year following completion of the induction program. In all cases, the Purdue Teacher Opinionaire was administered by the principal investigator and scored by a trained graduate assistant.

Instrumentation

Pre and post induction program teaching performance of the novice teachers participating in both models was assessed through analysis of videotapes using the Teacher Performance Assessment Instruments. The five instruments of the TPAI (Teacher Planning and Materials, Classroom Procedures, Interpersonal Skills, Professional Standards, and Student Perceptions) were designed to determine how well classroom teachers can demonstrate certain minimal teaching skills which are considered to be essential for good teaching (Capie, Ellett, & Johnson, 1980). Of the five instruments, two are recommended by the developers for certification purposes and were used in the present study:

1. The Classroom Procedures Instrument allows trained raters to measure skills related to actual instructional practices within the classroom setting. Direct observation is the major source of data.

2. The Interpersonal Skills Instrument measures the teacher's ability to create a comfortable social setting, demonstrate warmth and friendliness, and manage classroom interactions. As with the Classroom Procedures Instrument, ratings are based on actual classroom observations.

The two instruments of the TPAI consist of 45 broad statements of generic teaching competencies. For each teaching competency, competency indicators are listed in order to define behaviors representative of the competency. The more indicators a teacher demonstrates proficiently, the more likely it is that the teacher demonstrates the target competency. The third order of item classification and scoring is a set of sentence-length statements called descriptors. Scored on a scale from 1 to 5, descriptors

are more specific than competencies or indicators and are used to describe the quality of the teacher's performance relevant to a competency indicator.

The general TPAI scoring procedures require the data collector to rate the teacher being assessed on each indicator which best defines the teacher's behavior. The final score for any competency is a mean which ranges from 1.00 to 5.00. The sum of mean scores on all competencies of each instrument then becomes the total score for that instrument. Possible scores range from 10-50 for the Classroom Procedures Instrument and 20-100 for the Interpersonal Skills Instrument.

The validity of the TPAI has been investigated in a variety of studies. Content validity has been examined through a nationwide experts' opinion study which sought to verify the competencies, their indicators, and descriptors as essential for teaching (Johnson, Okey, Capie, Ellett, & Adams, 1978). Discriminant validity has been investigated by comparing the TPAI scores of beginning teachers with those of more experienced teachers (Ellett, Johnson, Capie, & Okey, 1978). Construct validity has been examined through a factor analysis of competencies and indicators (Ellett et al., 1978). Criterion-related validity has been investigated by correlating elementary and secondary teacher TPAI scores with a vareity of criterion variables such as student achievement on standardized and informal tests and observation of student "on-task" behavior (Okey, Capie, Ellett, & Johnson, 1978). In all instances, evidence obtained from these studies supports the validity of the TPAI.

Investigations of the reliability of the TPAI have been conducted using videotaped and actual teacher performance in the classroom. Studies of interrater agreement in both settings (Johnson et al., 1978; Lovelace

& Martin, 1984) and internal consistency analyses (Johnson et al., 1978; Okey et al., 1978) yielded reliability indices ranging from .85 to .93, providing evidence for the reliability of the TPAI and the assessment process.

Pre and post program attitudes of the novice teachers participating in both induction models were measured by the Purdue Teacher Opinionaire (Bentley & Rempel, 1980). The Opinionaire yields a total score indicating a general level of teacher morale and subscores in ten categories: (1) Teacher Rapport with Principal; (2) Satisfaction with Teaching; (3) Rapport Among Teachers; (4) Teacher Salary; (5) Teacher Load; (6) Curriculum Issues; (7) Teacher Status; (8) Community Support of Education; (9) School Facilities and Services; and (10) Community Pressures.

The Purdue Teacher Opinionaire consists of 145 statements relative to the tasks and contexts of teaching. Each item is rated by the examinee using a Likert-type scale ranging from 1 (agree) to 4 (disagree). Hand scoring is accomplished by assigning the appropriate item weights to teacher responses and tallying these in frequency tables for each item in each of the ten factors.

Investigations of the construct validity of the Purdue Teacher Opinionaire have been conducted by comparing Opinionaire scores with peer judgments of attitudes toward teaching (Bentley & Rempel, 1963). Criterion-related validity has been examined by correlating Opinionaire scores with administrator ratings (Brinkman, 1966). In various validity studies (Bentley & Rempel, 1963; National Education Association, 1966), the Opinionaire has been found to discriminate sharply among different schools

and among individual teachers in a particular school. Evidence obtained from these studies is supportive of the validity of the Purdue Teacher Opinionaire.

The reliability of the Purdue Teacher Opinionaire has been investigated in several studies. During development of the instrument, the ten subscales were administered to a large representative sample of high school teachers. The Kuder-Richardson internal consistency reliability coefficients for the ten categories ranged from .79 to .98 with an overall reliability coefficient of .96 (Bentley & Rempel, 1964). In a study of test-retest reliability (Bentley & Rempel, 1963), the Opinionaire was administered to 3023 elementary and secondary school teachers. Analysis yielded correlations ranging from .77 to .90 across the ten categories, providing evidence of the reliability of the Purdue Teacher Opinionaire and the assessment process.

Results

Analysis of the study data consisted of two procedural levels. First, pre- and post-program mean difference scores on the Teacher Performance Assessment Instruments and the Purdue Teacher Opinionaire for the buddy system group and team approach group were computed and compared. Second, data gained from post-program interviews were qualitatively analyzed in order to formulate hypotheses regarding the induction process. These analysis procedures yielded data relative to the following dimensions: (1) attitudes toward teaching, (2) teaching performance, and (3) induction program elements and characteristics.

Attitudes Toward Teaching

Mean difference scores for the team approach group and the buddy system group on the ten subscales of the Purdue Teacher Opinionaire are

presented in Table 1. Mean difference scores were in a positive direction for both groups on 8 of the 10 subscales indicating more positive attitudes of novice teachers following induction regardless of the model utilized in the areas of teacher rapport with the principal, satisfaction with teaching, rapport among teachers, teacher load, curriculum issues, teacher status, community support, and community pressures. Mean difference scores were in a negative direction for both groups on two of the subscales indicating more negative attitudes of novice teachers following induction regardless of the model utilized in the areas of teacher salary and school facilities and support services.

A series of one-way analyses of variance were conducted in order to investigate if mean difference scores of the buddy system group and the team approach group on each of the ten subscales were significantly different. Results of the ANOVA's are presented in Table 1. Mean difference scores of the team approach group were significantly greater than those for the buddy system group on the following five subscales of the Purdue Teacher Opinionaire: (1) Teacher Rapport with Principal ($F = 4.24$, $p < .05$); (2) Curriculum Issues ($F = 7.84$, $p < .01$); (3) Teacher Status ($F = 4.31$, $p < .05$); (4) Community Support ($F = 4.24$, $p < .05$); and (5) Community Pressures ($F = 7.83$, $p < .01$). These results indicate more positive attitudes of novice teachers following induction utilizing a team approach in the areas of rapport with the principal, curriculum issues, teacher status, and community support and pressures. The mean difference score for the team approach on the School Facilities subtest was also significantly greater ($F = 6.39$, $p < 05$), but in a negative direction. Thus, in the

Table 1

Mean Difference Scores: Purdue Teacher Opinionaire Subscales

Subscale	Team Approach $\bar{X}$	Team Approach SD	Buddy System $\bar{X}$	Buddy System SD	F	p
Teacher Rapport with Principal	+.386	.279	+.202	.169	4.24	.05
Satisfaction with Teaching	+.169	.154	+.110	.178	1.92	.15
Rapport Among Teachers	+.237	.223	+.188	.161	1.76	.19
Teacher Salary	-.346	.379	-.285	.331	2.02	.10
Teacher Load	+.236	.237	+.181	.187	1.73	.20
Curriculum Issues	+.662	.562	+.430	.362	7.84	.01
Teacher Status	+.378	.379	+.220	.168	4.31	.05
Community Support	+.431	.401	+.245	.379	4.24	.05
School Facilities	-.385	.260	-.185	.118	6.39	.05
Community Pressures	+.500	.465	+.280	.274	7.83	.01

area of school facilities, novice teachers enrolled in the team approach demonstrated more negative attitudes following induction than novice teachers utilizing the buddy system.

Teaching Performance

Mean difference scores for the team approach group and the buddy system group on the Classroom Procedures and Interpersonal Skills instruments of the Teacher Performance Assessment Instruments are presented in Table 2. Mean difference scores were in a negative direction for the two groups on both the Classroom Procedures and Interpersonal Skills instruments of the TPAI indicating lower ratings for novice teachers following induction regardless of the model utilized. Subsequent analysis of variance revealed no significant differences in TPAI scores between the buddy system group and the team approach group either before or after induction.

Field notes made by the principal investigator concerning teaching difficulties experienced by novice teachers and discussions which took place during committee meetings for the teachers enrolled in the team approach were codified for analysis. Patterns which emerged indicated initial problems in the areas of lesson presentations, materials and resources, planning for individual instruction, working with exceptional students, and overall classroom management. In general, these problems dissipated over the course of the year so that by spring semester 85% of the teachers had eliminated these areas of difficulties. By the last committee meeting, which took place in April or May, all of the teachers in the team approach were judged by their committee members to be operating at above average or superior teaching levels.

Table 2

Mean Scores: Teacher Performance Assessment Instruments

Instrument	Team Approach (n = 11)			Buddy System (n = 9)		
	Pre	Post	Difference	Pre	Post	Difference
Classroom Procedures	67.55	62.90	-5.45	70.33	65.00	-5.33
	(17.84)	(16.21)	(5.32)	(13.07)	(14.11)	(5.29)
Interpersonal Skills	41.18	34.82	-6.36	41.77	35.33	-6.44
	(9.81)	(9.08)	(6.11)	(7.10)	(6.48)	(6.36)

Note: Numbers in parentheses denote standard deviations

Induction Program Elements and Characteristics

Qualitative analysis consisted of codification of the interview data and field notes into patterns and generation of hypotheses relative to induction program elements and characteristics. Patterns and accompanying hypotheses are presented in Appendix B. Qualitative analysis yielded information relative to three major concerns: (1) necessary induction program elements; (2) when to provide assistance, and (3) model preferences.

Necessary Program Elements. Data from the present study support formulation of the hypothesis that effective induction programs should feature certain identifiable elements. These elements are structure, emphasis on assistance rather than evaluation of the novice teacher, and careful selection of the mentor teacher.

Novice teachers who participated in the buddy system reported that because the program lacked structure it was confusing for both the novice and mentor teachers. According to the novice teachers in the buddy system, clear goals should be mutually established with the mentor teachers. In addition, definite meeting times with the mentor teachers need to be scheduled providing opportunities to make suggestions and give general support to the novices. The following quote is representative of responses of participants in the buddy system induction model:

> ...I (would like to) set up a definite time that my consulting teacher would come in to observe me...I think twice a month. And set up goals, have her give me suggestions on the way I am teaching a lesson and see if we can't do something. I need to grow and that's the only way to do it...

Novice teachers involved in the induction team approach responded that all elements of the program should be retained, including formal observations by team members, formal committee meetings, and a commitment of a set minimum number of hours to be spent with the novice teacher by the mentor. According to the induction team participants, assistance rather than evaluation of the novice teacher should be emphasized. While the administrators were viewed by the novice teachers as important members of the team, many teachers were unsure if the principals were serving as evaluators or helpers.

While participants in the team approach generally reported added stress due to the structure of the program, they felt the benefits outweighed the stress. As stated by one novice teacher,

> ...it is hard to look at yourself when you are the one teaching, to step back and take a look at how you are teaching--just your different methods and what things you can improve and what things you are doing really well...

Participants in both induction models felt that the mentor teachers should be chosen carefully. Novice teachers stated the mentor should be someone they trusted and with whom they could share concerns; someone who would be willing to take time to listen and provide support, ideas, and possible solutions to problems; and someone who would have a similar philosophy regarding teaching or who would respect the novice teacher's philosophy. A similar grade-level teaching assignment or experience was also cited by novice teachers as a criterion for selection of a mentor teacher.

When to Provide Assistance. Data from the present study support formulation of the hypothesis that the ideal time for participation in an

induction program is during the first year of teaching. This early support will provide assistance in the development of teaching skills during the most crucial period of the beginning teacher's career. Consequently, some of the frustrations and anxieties experienced by first-year teachers can be circumvented. Of the novice teachers interviewed, all stated that assistance, regardless of the model, should be provided during the initial year of teaching.

There was a noted difference between the buddy system and team approach in the number of hours the mentor teachers spent with novice teachers. In the buddy system, mentor teachers spent an average of 22 hours with first-year teachers and an average of 12 hours with second-year teachers. In the team approach, mentor teachers spent close to the recommended 72 hours with first-year teachers and averaged approximately 38 hours with second-year teachers.

Model Preferences. Administrators and mentor teachers involved in the team approach viewed the model as superior to the buddy system. Reasons cited by participants for the superiority of the team approach included (a) elements built into the model and overall structure of the model; (b) access by the novice teacher to three resource individuals rather than one; and (c) increased collegiality of team members and participants.

Administrators participating in both induction models generally expressed that they knew the novice teachers in the team approach better than the novice teachers in the buddy system, and that they had established better working relationships through the team approach. Mentor teachers in the team approach stated that they had been able to provide more quality assistance to their novice-partners due to the nature of the program than their counterparts in the buddy system.

Discussion

A growing number of states and individual school districts have established induction programs designed to provide beginning teachers with assistance during the first years of teaching. The present study examined the comparative effects and outcomes of a team approach and a buddy system model of induction. Toward that end, data relative to professional growth, teaching performance, and overall program effectiveness were compiled and analyzed.

Professional Growth

In the present study, novice teachers obtained higher post-induction scores on 8 of the 10 subscales of the Purdue Teacher Opinionaire indicating more positive attitudes regardless of the model utilized in the areas of teacher rapport with the principal, satisfaction with teaching, rapport among teachers, teaching load, curriculum issues, teacher status, community support, and community pressures. Both first- and second-year teachers participating in induction programs demonstrated more positive attitudes in the areas cited.

Post-induction program scores for the team approach group, however, were significantly higher than those for the buddy system group in the areas of teacher rapport with the principal, curriculum issues, teacher status, community support, and community pressures. These data suggest that beginning teachers participating in the team approach model of induction have moved further in defining their teaching as a career, incorporating aspects of professional growth and a sense of efficacy as outlined by McLaughlin and Yee (1988).

According to McLaughlin and Yee (1988), development of professional

growth and a sense of efficacy depend on the following five factors: (1) resource adequacy, (2) an integrated school environment, (3) a collegial environment, (4) having a problem-solving orientation, and (5) being investment-centered rather than payoff-centered. Integral elements of the team approach model included mechanisms for development of a number of these factors. For example, beginning teachers were assisted throughout the year by colleagues at three levels of the educational system--peer, administrator, and university professor. Furthermore, novice teachers were involved on a regular basis with observation and feedback from these individuals and received assistance with resources and suggestions for improved classroom performance.

Novice teachers in both models obtained lower post-induction scores on two of the subscales of the Purdue Teacher Opinionaire indicating more negative attitudes in the areas of teacher salary and school facilities and support services. These data suggest that the novice teachers in the present study developed more negative attitudes regarding "resource adequacy." Hypothesized explanations for these negative attitudes include the increasing necessity for teachers to augment classroom supplies with their own monies and low teaching salaries as compared to other professions. In addition, as beginning teachers make necessary referrals for student services in already overloaded support systems, they often may feel inhibited in their efforts to perform as professionals due to lack of adequate resources and facilities.

Teaching Performance

Post-induction scores on the Teacher Performance Assessment Instruments were lower for both the team approach group and the buddy system group indicating lower teaching performance ratings for novice teachers following

induction regardless of the model utilized. These data contradict findings from other studies showing the benefits of participation in induction programs for beginning teachers (Elias, Fisher, & Simon, 1980; King, 1984). The decrease in TPAI scores is also inconsistent with information gathered in the present study from committee meeting reports and team member observation analyses. According to the committee and observation reports, the novice teachers in the team approach model demonstrated continuous growth in teaching performance, classroom management, and interpersonal and professional skills during the course of the induction program.

Failure to find improvements in the teaching performance of teachers receiving induction in the present study may be due, in part, to methodological problems associated with videotape production and analysis. Because of inexpert filming procedures, many of the videotapes did not begin with the initiation of lessons. Furthermore, anxiety of the novice teachers and their lack of experience with video-teaching may have interfered with usual teaching and classroom procedures. As such, the videotapes probably yielded atypical records of teaching performance.

Induction Program Models

Findings from the present study support the conclusion that structured induction programs incorporating delineated goals and expectations and opportunities for formal observation and feedback will be viewed by participants as more successful in meeting the needs of beginning teachers. As indicated in previous studies (Godley, Klug, & Wilson, 1985; King, 1984), the formal team approach as implemented in the present investigation provides more resources to assist beginning teachers in the areas of

translating knowledge into practice, personal characteristics of the teacher, and work socialization.

The university usually acts as a starting point for the development of teaching skills and abilities for individuals pursuing education as a career. Due to the complex nature of the teaching process and the setting in which it occurs, beginning teachers may not initially be fully equipped to contend with the various challenges which arise. Furthermore, teaching in isolation from peers does not allow for the necessary feedback of professionals which encourages continued growth and feelings of efficacy. Consequently, novice teachers may harbor unrealistic views of their teaching abilities and inabilities, and may, in turn, become disillusioned with teaching as a career.

As an effective response to these problems of beginning teachers, structured induction programs should be made available during the initial years of teaching. State departments and universities should offer assistance to local school districts to generate programs which will meet the needs of participants in the most effective manner possible. In doing so, the elements identified as necessary for successful induction need to be taken into consideration by program planners and administrators. As indicated in the present study, these elements include structure, emphasis on assistance rather than evaluation of novice teachers, and careful selection of the mentor teachers. In providing such an induction program for neophytes in the field of education, the institutions and agencies involved will benefit through continued growth and efficacy of beginning teachers who will be well on the way toward becoming professionals.

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Appendix A

Structured Interview Protocol

Name_____

_____ Grade level taught
_____ School district
_____ Number of teachers in school
_____ Number of years teaching experience
_____ Age
_____ Number of students in classroom

1. Describe the induction model in which you have been involved for this study.
2. At which point in time do you feel beginning teachers would most benefit from this type of assistance? Why do you feel this way?
3. Describe the types of problems with which you received assistance during the past year.
4. Describe the types of suggestions you were given during the past year.
5. Who much time did your teacher consultant spend with you during the past year?
6. Was the assistance provided to you during the past year adequate?
7. Did you feel the assistance provided to you was valuable to the development of your teaching competencies?
8. What suggestions do you have regarding the induction program?
9. What advice would you have for anyone who might be invited to participate in a similar program?
10. Do you have any additional comments you want to make?

Appendix B

Analysis of Qualitative Data

Patterns Which Emerged from Analysis of Interview Data

1. Elements needed for program effectiveness
2. Types of problems encountered
3. Types of assistance provided
4. Quality/quantity of assistance provided first-year teachers
5. Quality/quantity of assistance provided second-year teachers
6. Qualifications for mentor teachers
7. Need for university involvement
8. Perceived effectiveness of each model by novice teachers and other participants
9. Perceived benefits of participation in induction programs for novice teachers as well as others
10. At what point assistance should be provided

Initial Hypotheses Conceived

Hypothesis 1: It is essential to offer some type of support to beginning teachers. The program elements that are required for program effectiveness are the following: (a) structure; (b) careful selection of individuals who will be working with the beginning teachers; (c) emphasis on assistance rather than evaluation; and (d) initiation of program during the novice's first year of teaching.

Related patterns: 1, 4, 5, 6, 8, 9, and 10

Hypothesis 2: Beginning teachers experience needs in the following areas: (a) teaching skills; (b) curriculum; (c) learning about the cultural milieu of the school; and (d) receiving support from peers and administration.

Related patterns: 2, 4, 5, 9, and 10

Hypothesis 3: In general, teachers who have received assistance during their initial teaching years feel positive about that assistance and would recommend that it be available for all beginning teachers. Beginning teachers must perceive support on the part of administration and peers for the induction program as well as perceive potential benefits for their professional development.

Related patterns: 1, 4, 5, 6, 7, 8, 9, and 10

Revised Hypotheses

Hypothesis 1: Induction programs must feature certain elements in order to be most effective. These elements are structure, emphasis on assistance rather than evaluation of the novice teacher, and careful selection of the mentor teacher.

Related patterns: 1, 2, 3, 6, 8, and 9

Appendix B (continued)

Analysis of Qualitative Data

Revised Hypotheses (continued)

Hypothesis 2: The ideal time for participation in an induction program is during the first year of one's teaching career. In doing so, teachers will receive assistance in the development of teaching skills when it is most needed. Therefore, some of the frustations and anxieties experienced by first-year teachers can be circumvented.

Related patterns: 2, 3, 4, 5, and 10

Hypothesis 3: The induction team approach with the inclusion of a higher education representative was viewed as a superior model for the induction of new teachers by those who had participated in the model as novice teachers or committee members.

Related patterns: 1, 4, 5, 7, 8, and 9