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ABSTRACT

This paper examines how selected characteristics of a program and attributes of key actors affected a particular collaborative effort to increase the supply of secondary math and science teachers. A funded grant created the need for collaborative linkage between schools and a university which had no prior experience with joint efforts. Elements of an alternate certification program (i.e., paid internships, staff development program, academic curriculum, formal agreements for data collection, alternative certification plan) are discussed with respect to the shared decision processes used to develop and implement the program. Over the course of developing and implementing the program, the role of school districts evolved from providing advice about preparation of teachers to providing financial resources (paid internships and mentor teachers) and becoming equal legal partners with the university in certifying secondary mathematics and science teachers. Further, personal characteristics (risk-taking, commitment, tolerance for ambiguity, energy) of key individuals in the program are presented as possible elements which influenced collaboration. Thirty-five references are included. (Author/IAH)

Shared Program Decisions and Qualities of Effective Players:

Key Elements for School - University Collaboration

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ABSTRACT

This paper examines how selected characteristics of a program and attributes of key actors affected a particular collaborative effort. A funded grant created the need for collaborative linkages between schools and a university which had no prior experience with joint efforts. Elements of an alternate certification program (i.e., paid internships, staff development program, academic curriculum, formal agreements for data collection, alternative certification plan) are discussed with respect to the shared decision processes used to develop and implement the program. Further, personal characteristics (risk-taking, commitment, tolerance for ambiguity, energy) of key individuals in the program are presented as possible elements which influenced collaboration.

Shared Program Decisions and Qualities of Effective Players: Key Elements for School-University Collaboration

As public schools and universities strive to develop cooperative arrangements to satisfy state education codes or requirements for externally funded grants, institutional characteristics of these organizations often hinder collaboration. For example, Wu (1986a) notes that school-university differences in research emphasis (solution oriented vs theoretically based), control (local vs state), policy making (autonomous vs consensus) responsiveness to community (sensitive vs relatively immune), institutional commitment (high vs low to moderate), and relative status (hierarchical vs diffused) often adversely affect collaboration on teacher preparation. Additional discussion of these and other inhibitors to collaboration between schools and universities is provided in Brookhart and Loadman (1989), Goodlad and Sirotnik (1988), Holmes Group (1990), Ladd (1969), Lieberman (1986), Mickelson, Kritek, Hedlund and Kaufman (1988), Osajima, (1989), Ward and Pascarelli (1987), and Wilbur (1984).

Elsewhere, Wu (1986b) indicates that schools and universities can overcome these institutional differences to develop viable collaborative relations if mutual needs and benefits can be identified; if clear role expectations are stated for actors of both agencies, if a functional communication network can be established; if administrative structures and support can be established in both agencies, and if trust develops between actors in the two agencies. Support for these conditional statements can be found in the following sources: mutual needs and benefits (Collins, 1971; Dillon, 1974; Havelock, Huberman, & Levinson, 1981-82; Mickelson et al., 1988; Mocker, Martin, & Brown, 1988; Wilbur, 1984), clear role expectations (Brookhart & Loadman, 1989; Davis & Aquino, 1975; McGeoch &

Quinn, 1975; Nur, 1983), acceptance of work conditions (Gallegos, 1980) functional communication network (Goodlad, 1987; Moore, 1968; Wilbur, 1984), administrative structures and support (Wangemann, Ingram, & Muse, 1989), trust (Ladd, 1969; Osajima, 1989).

The intent of this paper is to examine how selected characteristics of a program and attributes of key actors affected a particular collaborative effort. The remainder of this paper examines how a funded grant created the need for collaborative linkages between schools and a university with no prior experience with joint efforts. First, a narrative is presented of the joint planning processes associated with the program, then consequences of joint actions are presented. The final sections present attributes of key actors in the program and how these characteristics influenced the implementation of the program.

Joint Planning Processes

In 1985 an alternative certification program was established to meet the perceived shortage of secondary mathematics and science teachers. The impetus for this program was a successful proposal for federal funds. Among the planning components required by the proposal was an advisory panel consisting of representatives from eight school districts and college faculty whose function was to provide advice and counsel on the program's development. Five curriculum directors, two secondary principals, a secondary teacher, and a director of personnel represented the eight school districts, while eight faculty members from curriculum and instruction and educational administration departments represented the university. Among these individuals was the dean, an assistant dean, the department head of curriculum and instruction, a departmental graduate advisor, director of field experiences and three faculty members whose teaching and advising responsibilities included baccalaureate students majoring in secondary education and secondary certification students majoring in liberal arts, science, or

agriculture. Given their experience with secondary teacher preparation programs, the university faculty held a number of assumptions and views about the new program's philosophical basis, and the corresponding content structure of pedagogy for the program.

Content Structure: Philosophically, the orientation of the university faculty was for the new program to encompass the tenets of an academic rationalist curriculum (Vallance, 1985). As this name suggests, this teacher preparation curriculum placed substantial emphasis on the selection and ordering of content to be taught. Recent work has labeled this curricular orientation for teacher preparation as academic (Gore & Zeichner, 1991) or academic orientation (Feiman-Nemser, 1990). This orientation to teacher preparation curriculum emphasizes the representation and translation of subject matter knowledge to promote student understanding.

Because of this philosophical orientation to the nature of the teacher preparation curricula, the university panelists (especially the secondary level teacher educators) wanted to follow particular guidelines for selecting content for the curriculum. From their perspective, to be considered for inclusion the concept, principle, or process had to be: (a) related to student growth as revealed by empirical evidence; or (b) identified as necessary curricular material by expert opinion based on experience; or (c) logically explained by theory from social science and/or philosophy (Denton, 1987). Efforts in applying these curricular scope decision rules had resulted in a parts and kinds content taxonomy (See Figure 1) for the operating secondary teacher preparation programs at the time the advisory panel was formed.

Place figure 1 about here

Realizing the primary and secondary concepts could easily be expanded to include additional concepts, the secondary teacher educators on the panel believed that structure could serve as the content foundation for the new program

Instructional Model: The second needed element in the university panelist's view for the new program was the content focused instructional model (Denton & Armstrong, 1989) illustrated in Figure 2.

Place figure 2 about here

Variants of this model (Armstrong, Denton, & Savage, 1978; Armstrong & Savage, 1983) had served as the organizational framework for the teacher preparation programs in secondary education for over a decade. This model provided a conceptual framework for teaching candidates as they learned how to develop and implement their instructional plans. In the model, candidates are asked to begin instructional planning by mapping relations of key content elements and conducting concept analysis of those elements. Concept analysis involves defining selected concepts in terms of their critical and variable characteristics then selecting example and non-example pairs that emphasize the critical characteristics of the concept. Next, illustrative principles involving the concept are noted, and applications such as problems or exercises involving the concept are developed (Klausmeier & Allen, 1978). This process enables the candidate to develop substantial information about key concepts. As a result, they become thoroughly familiar with the formal-knowledge characteristics of the concepts they plan to teach.

Next, candidates identify desired learning outcomes. Identification of learning outcomes requires candidates to translate the formal knowledge elements into behavioral referents to be exhibited by their learners. Candidates must

demonstrate mastery of the concept cited in the learning outcome. In addition, they make preliminary decisions about the level of cognitive processing (knowing, understanding, applying, analyzing) they expect learners to exhibit. At this point in the process, candidates are encouraged to think of their outcomes as tentative. Outcomes may be altered as subsequent instructional decisions are considered.

Next, candidates develop instructional strategies. These strategies place substantial emphasis on learner guidance, learner performance, and feedback. At this time, candidates consider information they have compiled on key concepts through concept analysis and the nature of the desired learning outcomes as they select instructional activities. Once instructional activities are selected, they are sequenced into instructional strategies that incorporate Gagne's (1977) "events of instruction." The activities are sequenced to assure that the following instructional events occur: (a) attention of learner is obtained and maintained; (b) objective is communicated to learner; (c) prerequisite information is reviewed; (d) new information is presented with cuing and guidance offered as needed; (e) opportunities for learner performance are provided followed by feedback on the appropriateness of the performance; (f) assessment by the teacher is made whether additional information as well as additional performance-feedback cycles is necessary for learners to master the related outcome. The complexity of instructional strategies (as evidenced by the number of instructional activities and the allocated time for students to master targeted outcomes) depends on the desired level of learner cognitive functioning for each learning outcome. As a rule, candidates organize a greater number of instructional activities into an instructional strategy as the expected level of cognitive functioning rises (Denton, Armstrong, & Savage, 1980).

This model encourages the candidate to accommodate the entry level skills of individual learners by adjusting the planned instructional strategies if prerequisites

are not evident. If learners do not have a firm grasp of concepts or principles that are considered to be necessary prior knowledges for the intended learning outcome, the instructional strategy is modified. This modification enables learners to begin at a point consistent with their existing levels of understanding.

During the implementation of instructional strategies, if learners fail to demonstrate satisfactory progress, the candidate adjusts the strategy and attempts another approach. In this model, evaluating instruction is considered to be a formative and iterative process. Candidates are encouraged to use criterion-referenced tests and assessment procedures. Data are gathered that allow them to assess not only learners' progress but the effectiveness of the instructional system as well.

Public School Positions: Panelists representing public schools were from districts within a radial distance of 100 miles of campus. These districts were invited to participate in the development of the new program because of their past involvement in teacher preparation with the college as student teaching sites. Given past associations and experiences with the secondary preparation programs from at least 5 years of student teaching placements, it was thought these districts would be interested in the program. However, personal associations among the public school panelists and between the public school and university panelists were minimal, when the panel convened for the first time.

The public school panelists did not come to the program development table with a common set of assumptions about teacher preparation. This phenomenon was reasonable since these individuals represented different districts and responsibilities (i.e., teacher, principal, personnel specialist, curriculum specialist) associated with secondary schools. However, they did share the view that the new program should develop teachers who would challenge current practices in schools and classrooms. These "new" teachers would encourage colleagues to examine and

experiment with instructional practices, curricula, and technology. Given their professional experience, the view of panelists was not that current practices necessarily needed to change, rather existing practices needed to be reviewed, discussed, and modified if found wanting by professionals in the classroom.

Finally, these panelists wanted teachers prepared with a sensitivity and sense of responsibility to the school and the profession. Goodlad (1990) captured this idea in the metaphor of the teacher as a gardener who is concerned not only with the growth of healthy plants in the garden but with the quality of the soil as well. Similarly, teachers must be concerned not only with the growth and development of learners, but assume responsibility for creating and maintaining a quality school.

Table 1 summarizes the expressed views of the panelists as they began to deliberate about the nature and structure of the new teacher preparation program. The school panelists held a practical orientation to teacher preparation programs that focuses attention on elements of craft and techniques held by skilled teachers, while the views espoused by university panelists were academic dispositions (Feiman-Nemser, 1990). However, these views were not in opposition to one another.

Place Table 1 about here

This panel met four times during the following year, with three meetings occurring prior to the beginning of instruction for the first cohort of teaching interns. During these meetings a number of components were proposed that became integral characteristics of the program. These characteristics and how they were established are discussed in the following section.

The alternative certification program was developed (October 1985-June 1986), implemented and maintained for 4 years (June 1986-August 1990).

Although federal support ceased after 2 years, four cohorts of 31 interns participated in the program. Thirty interns completed certification requirements and 23 of these individuals also completed master's degrees in education. At this time 22 former interns are continuing to teach in secondary or college settings and 3 have entered doctoral programs in professional education. Program evaluation results from the initial two cohorts reported elsewhere (Denton & Peters, 1990) indicate that students of interns had greater achievement on standardized curriculum based tests of earth science and physical science but lower achievement in mathematics than students of more experienced colleagues who were teaching in the same departmental unit and school. Whether these data represent positive or negative findings about the program depends on the frame of reference of the reader. Yet these data do indicate the program was implemented and prospective teachers did become teachers who continue to teach in secondary mathematics and science classrooms.

Shared Program Decisions

Discussions and decisions reached by the program panel during the initial stages of the program resulted in the following program characteristics:

Paid Internship: Quite unexpectedly, school panelists, at the initial meeting of the group recommended including paid internships as an important component of the new program. One of the panelists, a school principal, reasoned that because the interns would be teaching in the school for an entire year, payment for their services was appropriate and necessary. This principal also noted that if the interns were to teach four periods in a 6-period day as a paid employee of the school district, the year of teaching experience would count as 1 year of teaching experience in the teacher retirement system. The panel discussed how this program characteristic would foster the development of partnerships between the school and university, because of shared program costs and the legal need for both partners to

participate in the selection of interns for the program. Panelists also pointed out during this discussion that paid internships would enable otherwise qualified individuals with financial responsibilities an opportunity to become a teacher who could not consider this option if a paid internship was not available. The panel strongly endorsed this recommendation, which was subsequently accepted and integrated into the program.

The downside of this decision was the subsequent difficulty of recruiting districts to participate in the program and hire interns for a 1-year contract. Although real salary savings were associated with the employment of each intern (intern's pay was one-half a beginning teacher's salary), placement of candidates in internships during the initial 2 years of the program was the greatest challenge in implementing the program. This difficulty occurred because mutual needs and benefits (Mickelson et al., 1988; Mocker et al., 1988; Wilbur, 1984; Wu, 1986b), which are necessary characteristics for organizational ownership to occur, were not effectively addressed during the implementation of the program. Representatives of school districts who did not participate on the development panel indicated they were not experiencing shortages of capable science and mathematics teaching applicants when approached and encouraged to participate in the program. These district representatives lacked a need to participate and felt no sense of ownership in the program. A strategic error had occurred when the panel was formed initially by not inviting a larger number of school districts to participate in the development of the program. This error became quite evident during the implementation phase of the plan. When program officials began to approach school districts who needed mathematics and science teachers and invited these districts to joint the panel, an obvious benefit for participating was evident and joint ownership soon followed. This element of paid internships represented a change from past practices for

professional field experiences and signaled the public school panelists desire to create a program that challenged the status quo.

Staff Development Programs: A second pre-implementation recommendation by public school panelists was that only school districts with well established staff development programs be invited to participate in the program. This recommendation was offered to ensure that support and assistance be provided by the school district to the intern. The idea was accepted and it became an element in the program's implementation strategy. The positive consequence of this recommendation was the valued support and assistance provided to interns through orientation sessions for new faculty and mentor teachers assigned to help the new teacher in getting organized for teaching. Because these induction practices were standard procedures in participating schools, no special program needed to be developed to ease or "orient" the intern into the district. This strategy met the condition of satisfying the role expectations for supervision of both agencies (Brookhart & Loadman, 1989; Davis & Aquino, 1975, Nur, 1983; Wu, 1986b), and the initial view of panelists to foster the organizational health of the school.

Unfortunately there was a downside to the staff development requirement for participating in the program. Negative consequences occurred because small rural school districts with critical needs for science and mathematics teachers were not eligible to participate due to the lack of resources to provide continuing staff development programs. Paradoxically, we had created a program to prepare mathematics and science teachers yet excluded districts with acute needs for these teachers from participating in the program. This implementation strategy would have been tempered if the development panel had been represented by districts who needed teachers, but lacked resources for on-site staff development programs.

Academic Curriculum: A third pre-implementation recommendation was that the curriculum reflect a logical and organized content structure. Discussion of this

recommendation by the panel, centered around the emphasis in teacher education to establish and document the content-structure associated with preparing teachers. This recommendation approved by the panel was accepted by the development team and became the foundation for the program's curriculum. Approval of an academic curriculum by the panelists was influenced by the administrative structure and support (Wangemann et al., 1989) available to implement the curriculum.

A limitation of this decision was that content elements of historical and legal significance were not included in the program, given the emphasis placed on instructional skills and research skills needed by interns to conduct an instructional investigation during their internship. Again, this limitation perhaps could have been reduced had a larger number of school districts representing small rural and urban schools been represented on the panel.

Formal Agreements: Another recommendation of the panel in this case originating from university panelists was for district officials, preferably the building principal, to approve at the beginning of each year the collection of classroom observation data and end-of-year measures needed for program evaluation. These agreements were essential for the program to meet the university's requirement of the Human Subjects Review Panel. Observation data included video-taped lessons recorded on each intern throughout the school year, while end-of-year measures included curriculum bound cognitive tests administered to learners of the intern and learner perceptions of the intern's instructional skills. Procedures for collecting these data were necessary to empirically test the content-focused instructional model. Unexpected, but highly valued, class sets of data were obtained when colleagues of the interns also administered the final course examinations to their classes and provided the data to the university supervisor. Collectively, end of course achievement data from 771 learners were collected during cohort one.

One explanation for why these latter data were obtained is that the university supervisor established rapport with the interns and their mentor teachers through frequent and substantive interaction during the school year. The supervisor visited the interns weekly spending the entire day at the school observing, critiquing and visiting with the interns and fellow faculty members. The positions of Ladd (1969) and Osajima (1989) support the idea that the key to the success of the interns and the support of the participating schools was the trust developed between the university supervisor and the interns. Similarly, it is thought the reason colleagues of the interns agreed to administer the final course examinations to their learners and provide the resulting data to the university was the trust that developed between the teachers and the university supervisor during the year. These data gathering procedures were repeated with subsequent cohorts.

Among the monitoring and data collection activities of the supervisor were video-taping complete lessons of the interns at 4-6 week intervals, monthly application of the state performance appraisal instrument on the classroom practices of the interns, and frequent visits with mentor teachers and building administrators to obtain their views of the interns' progress. The video-taped lessons were coded by the course instructor of the practicum methods course to monitor whether the interns were incorporating the content principles emphasized in the curriculum. Analysis of these data revealed correlations of increased magnitude between knowledge of teaching skills and class performance of these teaching skills as the year progressed (Denton, Furtardo, Wu, & Shields, 1992).

Gaining access to these data represented a significant departure from previous practices of districts who had seriously restricted the collection of classroom data by university faculty for research and evaluation purposes. From a research perspective, permission to obtain class data was a major accomplishment. Collaboration in this case opened classrooms for the prospect of knowledge

production about the preparation of teachers and thus satisfied the university's need for a theoretically based research emphasis. However, much of the information collected was also used for formative assessment and problem resolution research focus. This complementary use of research data illustrates how both agencies accepted the conditions of work held by the other party (Gallegos, 1980; Wu, 1986b).

Alternative Certification Plan: To meet requirements for teacher certification an alternative certification proposal was developed for individuals with degrees. This proposal was submitted to state certification officials and was approved for one year. In this plan, candidates were certified only if both the participating school district and the university recommended the individual for certification. Given the different governance structure for alternative certification, the state closely monitored this program and conducted an on-site evaluation of each intern. The evaluation team was satisfied the program was being conducted as proposed and approved the certification plan.

Thus, over the course of developing and implementing the program the role of school districts evolved from providing advice about the preparation of teachers to providing financial resources (paid internships and mentor teachers) and becoming equal legal partners with the university in certifying secondary mathematics and science teachers. These events, while facilitated by changes in state regulations, came about because of the commitment and effort of individuals in these institutions to create an administrative structure and support system which both school districts and the university "owned."

Qualities of Effective Players

Cooperation among people is essential for any successfully organized social endeavor. Individuals agreeing to serve on the advisory panel readily accepted the

charges of critically evaluating early drafts of the program and suggesting alternatives. Panel members representing school districts and college faculty began with the assumption that their views would be taken seriously and readily assumed the role of professional consultants. Respecting the views of all panelists and incorporating their recommendations into the program clearly enhanced the collaborative spirit. Yet personal characteristics of panelists, interns, and program implementers influenced the spirit for collaboration as well. The following descriptions highlight personal characteristics of participants who fostered school-university collaboration and enabled this program to succeed.

Risk Taking: It became evident that the most effective individuals during the first year of the program were the risk takers. The interns perhaps were the greatest risk takers because the success of the program would directly affect their personal and professional lives well into the future. School principals, personnel directors, directors of secondary education and superintendents who agreed to work with interns were high risk takers, especially during the first year. Whether students, parents, and the community would accept an intern as the teacher of record for the entire year was not known. Whether the interns had sufficient teaching skills to assume responsibility for four classes each day was unknown; whether the interns would develop and succeed at a sufficient rate to foster learning of their students was an untested assumption; and whether fellow teachers and local teacher organizations would accept an intern in the role of full-time teacher was of concern. The success of the interns during the first year resolved questions about their ability to teach and reduced concerns about their acceptance by students, colleagues, and parents.

Commitment: Getting the right people involved certainly is a key to successful collaboration. Identifying these people is the difficult task. Yet these individuals are characterized by being flexible; being willing to fail and then try again, and

displaying enthusiasm while being patient and committed. One individual who exemplified these characteristics had a pronounced influence on our program. An unanticipated issue we experienced during the first year was the difficulty of recruiting other schools for intern placements. What did convince other principals to participate was the encouragement and counsel provided by the principal who supervised two interns during the first year of the program. This individual's commitment was responsible for the number of schools participating in the district to increase from one to four during the second year of the program. In this instance, the right person was involved and contributed substantially to the program's continuation.

Tolerance for Ambiguity: As the program moved into its second year, additional districts were encouraged to participate. Because a number of these districts had representatives on the advisory panel, it was thought they would participate as the program moved into its second cycle. Unfortunately, only those districts that participated the first year agreed to participate during the second year of the program. One hypothesis for this unexpected turn was the decision-makers from non-participating districts could not tolerate the ambiguity. Because the regulations associated with regular certification programs did not apply to this program, a number of decision-makers expressed reservations about the different rules for becoming certified. However, pragmatic considerations such as the loss of flexibility (decision-power) by decision-makers in personnel issues involving their buildings and the abundance of qualified applicants in mathematics and science were also reasons these decision-makers declined invitations to participate in the program.

On the positive side, one additional district was recruited to participate in the program through the efforts of a prospective intern. This individual approached school personnel officers with the proposal of serving an internship in their district.

Due to family responsibilities and commuting distance, this individual was unable to seek an internship with school districts that had participated during the first year. Her effort ultimately led to the school district and university filing an alternative certification plan with the state teacher certification office. In this case, the prospective intern exhibited a high tolerance for ambiguity because these negotiations, occurring over several weeks, had to be approved by the district and university. District administrators exhibited flexibility and conveyed an interest in the program due to personnel needs, leaving the task to the university of simply developing the written document to submit to the state department of education for program approval. The intern was very successful and received a special commendation from the district for the outstanding performance exhibited by her students on the state competency tests in mathematics. In addition, this district accepted two interns for the following school year.

Energy: From the experience gained through operating this program, it appears that successful school-university collaboration requires a substantial amount of personal energy to flow into the system. Reducing uncertainty by establishing protocols that can be replicated, establishing and maintaining communication channels among individuals in the system, monitoring organizational climate and adjusting as "rough weather" creates turbulence, and maintaining the social system once it is operational requires personal energy. In many respects, school-university collaboration has energy requirements similar to a gasoline engine, that is, energy need not come from a particular container, but it must always be present for the "engine" to operate.

Examples cited to illustrate essential personal characteristics for collaboration support the idea that substantial investment of personal energy from different individuals is needed if school-university collaboration is to succeed. Further, once the energy threshold is attained, it must be maintained or the system

will not operate. Fortunately, collaborative structures enable many individuals rather than a single individual to contribute to the energy demands of the system.

Other qualities: Personal qualities of commitment to excellence and compassion, while evident across the program, were especially evident in one situation during the second year of the program. One intern with excellent academic credentials and an expressed desire to become a teacher experienced serious difficulty with classroom management at the outset of the school year. Numerous classroom observations (9) followed by valuative feedback and recommendations from school officials (mentor teacher, assistant principal, principal) and university staff (university supervisor, principal investigator), failed to resolve the classroom management problems of the intern. In addition, efforts were undertaken by the principal to reduce class size, by dividing one class into two classes, resulting in classes of 7 and 9 students. Another class was adjusted to contain 17 students with a female to male ratio approaching 6:1. Unfortunately, these adjustments did not enable the intern to manage her classroom effectively and she was counseled to resign from the program, effective at the end of the fall semester. School officials and university staff exhibited substantial industry, patience, and compassion as they worked with the intern to adjust and improve. Yet these individuals also held a professional commitment to instructional excellence and reluctantly came to the conclusion that the intern be counseled out of the program for the sake of the youngsters in the intern's classes.

Conclusions

Although formal structures for collaboration, such as advisory panels and legal authority of institutions may support cooperation, the individuals in the organizations make collaboration a success. Clearly, human traits of risk taking, commitment, tolerance for ambiguity, energy, and compassion affect organizations

as well as agreements among institutions. The "secret to successful collaboration," however, rests with individuals communicating frequently and honestly with one another. These individuals have a strong sense of confidence in their knowledge and ability and see the possibilities of controlling conditions in their work place (Osajima, 1989). Most of the conditional "if" statements (Wu, 1986b) noted at the outset of this paper were achieved through clear communications and hard work. Stated another way, as trust builds through interactions and demonstrative actions, collaboration becomes a valuable by-product of successful communication.

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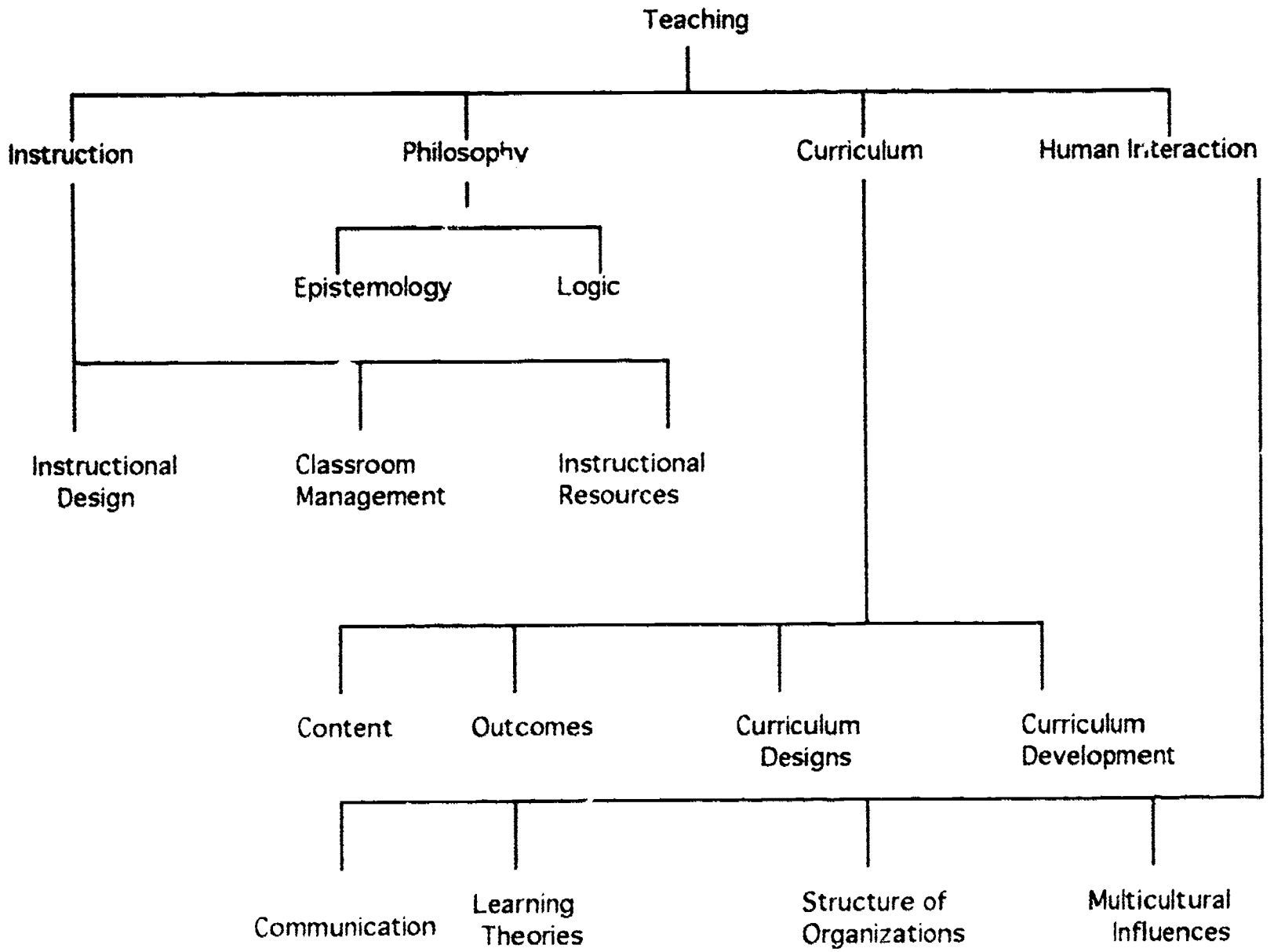

Figure 1

CONTENT MAP FOR ALTERNATIVE CERTIFICATION PROGRAM

Table 1: Initial Views of Public School and University Panelists Regarding New Teacher Preparation Program

Public School Panelists	University Panelists
1. Program will prepare teachers to challenge status quo in schools.	1. Program will be based on a carefully developed content structure of pedagogy reflecting the academic tradition.
2. Program will instill in teaching candidates a sense of responsibility for the school's organizational health.	2. Program will emphasize the content-focused instructional model.

• **Table 2: Graduate Certification Course Work and Sequence**

Title	Description
FIRST SUMMER SEMESTER (10 Weeks)	
Science in the Middle and Secondary School (4 semester hours)	This course emphasizes the organization, management and safety of science laboratories for instruction.
or Mathematics in the Middle and Secondary School (4 semester hours)	This course presents instructional strategies for teaching various mathematical topics to students with diverse backgrounds
Seminar in Field and Laboratory Experiences (2 semester hours)	This course provides interns with actual classroom experience in tutoring, monitoring class, and presenting lessons.
Models for Classroom Management (3 semester hours)	This course examines management processes with respect to the changing student schools as organizations and expectations of the community and state.
Theory and Instructional Design of Teaching (3 semester hours)	This course examines the content-focused model of instruction in detail. Special emphasis is placed on scope and sequence decisions of content to be taught and how these decisions influence instructional design.
ACADEMIC YEAR	
Fall	
Professional Internship (3 semester hours)	Course credit is awarded for teaching four periods each day throughout the academic year with supervision provided by the school district and university. In addition, the district pays the intern's salary and assigns a mentor teacher to guide and counsel the intern.

• Analysis of Teaching Behavior (3 semester hours)	This course examines topics, such as teacher expectations, learner motivation, teacher planning, individualizing instruction and how these concepts affect their classrooms. In addition, interns are required to develop a proposal for an instructional investigation.
Spring	
Professional Internship (3 semester hours)	(See preceding description of internship.)
Teaching Strategies: Critical Problems (3 semester hours)	This course addresses strategies for problem solving, deductive logic, and the influence of epistemology on curriculum designs. Interns are required to provide a preliminary report of their completed instructional investigation.

SECOND SUMMER SEMESTER (10 weeks)

Cultural Foundations (3 semester hours)	This course employs a conflict analysis model to examine school issues as they relate to the individual, culture, society and the school.
Curriculum Development (3 semester hours)	This course examines skills in developing a course curriculum with emphasis placed on underlying assumptions and legal requirements for public school curricula in Texas.
Electives (6 semester hours)	Graduate course offerings in intern's teaching field, educational technology or educational psychology are recommended.

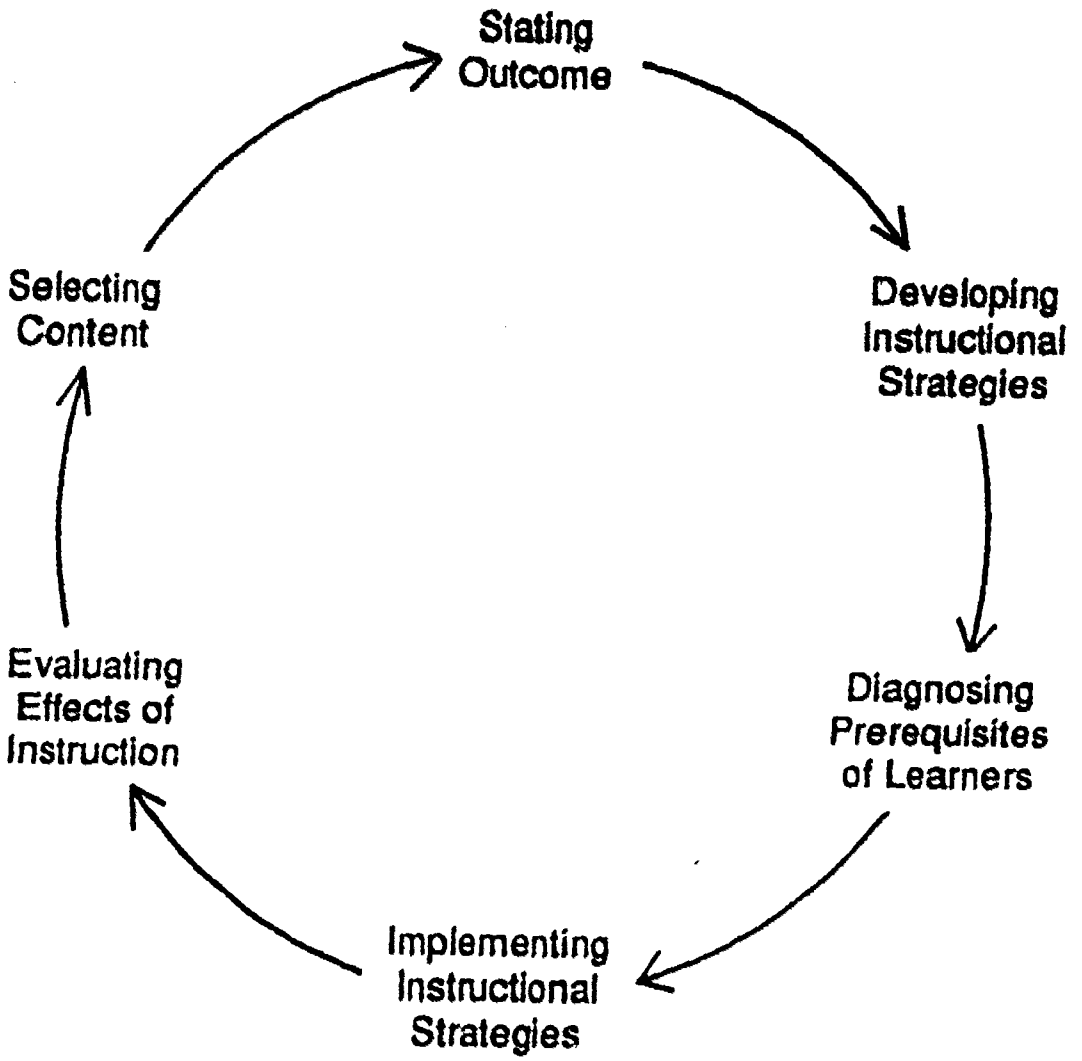

Figure 2

Content Focused Instructional Model