

DOCUMENT RESUME

ED 363 943

EA 025 419

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TITLE School Organization Structure Impact on Teachers' Attitudes toward Their Work Environment: Interdisciplinary Team Organization versus Departmental Organization.
PUB DATE Apr 91
NOTE 36p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Junior High Schools; Middle Schools; *Organizational Climate; *Participative Decision Making; *School Organization; Secondary School Teachers; Teacher Attitudes; Teacher Influence; *Work Attitudes; *Work Environment

ABSTRACT

This paper presents findings of a study that examined the effect of school organization on teachers' attitudes toward their work environments. The study compared the attitudes of teachers who work in schools with an interdisciplinary team organization (ITO) with those of teachers who work in schools with a traditional departmental organization (DEP) structure. Data were collected through: (1) a survey of 47 teachers from 2 ITO middle schools and 31 teachers from 2 DEP junior high schools, and (2) interviews with a random sample of 10 percent of the teachers in each school. ITO teachers expressed more positive attitudes toward their colleagues and described their principals as more effective goal-setters than did their DEP counterparts. ITO teachers reported that they experienced less isolation and increased collaboration, but viewed their input into the school decision-making processes as inconsistent. In addition, school organization did not significantly affect teachers' attitudes toward work, beliefs about professional life, or involvement in their school's decision-making process. The recommendation is made to provide teachers with more input into decisions that affect their work. Four tables are included. Contains 42 references. (LMI)

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School Organization Structure Impact on Teachers' Attitudes
Toward Their Work Environment: Interdisciplinary Team
Organization Versus Departmental Organization

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Paper presented at the annual meeting of the American
education Research Association, Chicago, Illinois, April 3-7,
1991

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**School Organization Structure Impact on Teachers'
Attitudes Toward Their Work Environment:
Interdisciplinary Team Organization Versus
Departmental Organization**

Abstract

The study tested the hypothesis that the school organization can make a difference in teachers' attitudes toward their work environment. School organization theories predict that organizing schools into cooperative subunits might result in a more positive school environment. This investigation used a survey to compare middle level teachers' attitudes toward colleagues, work, professional life, school's decision making process, and administrators' role; who work in an interdisciplinary team organization (ITO) structure versus traditional departmental organization (DEP) structure. The sample consisted of 47 teachers from two ITO middle schools and 31 teachers from two DEP junior high schools. Results indicated ITO teachers felt more positive toward colleagues and toward one aspect of the principal's role; none of the other aspects indicated significant differences. Analysis based on teacher interviews suggests that the team unit is not given an important role in school-wide decisions. Implications of this study to middle level education are discussed.

Theoretical Framework

In the last decade effective school research, school improvement studies, and school reform reports identified school environment as a crucial element in improving schools (Boyer, 1983; Cohen, 1983; Goodlad, 1984; Holmes Group Report, 1986; Purkey and Smith, 1983; Rosenholtz, 1989; Sizer, 1984). Results from these studies suggest that the school environment in successful schools promotes teacher collaboration; provides a clear set of goals which are shared by the entire school staff; provides teachers with ample learning opportunities; involves teachers in the decision making process; promotes teacher

autonomy; and as a consequence has teachers who are committed, satisfied and efficacious. It appears, however, that schools have not created the kind of atmosphere described above. Schools have been criticized as having a cellular structure and a climate that promotes teacher isolation, minimizes teachers' participation in decision making, and inhibits the type of interaction and communication teachers need in order to operate effectively and promote change (Bird and Little, 1986; Lortie, 1975; Owens and Steinhoff, 1976; Sarason, 1982).

Addressing school structure, therefore, is a crucial element in school improvement. Three organizational models help understand the impact of the school organization structure on its environment. The bureaucratic model views the school as a hierarchical, top-down control system which denies teachers the opportunity to make decisions and use professional judgement, as well as "deprives the school organization of a rich pool of human talent for organizational improvement" (Alfonso and Goldsberry, 1982). On the other hand change is more readily achieved in such a model because of the tight connection between the different parts of the bureaucratic organization.

The second organizational model portrays schools as loosely coupled systems. Each unit within the system has weak connections to other units, and the system is characterized by ambiguous goals, ineffective hierarchies of authority, unclear technologies, and fluid participation (Weick, 1978). In this kind of organization the teacher has a lot of autonomy and very little need to work together with other teachers and administrators. Weak connections between the organizational units may prevent school goals such as innovations and educational reform from being achieved (Mayer and Rowan, 1978; Cohen, 1981).

The third model compensates for the deficiencies of both the bureaucratic and the loosely coupled models while maintaining the advantages of each. Various versions of this model are mentioned in the literature. Sergiovanni (1987) proposed a model he called the cooperative bureaucracy. He suggested that successful schools combine several goals set by the top of the organization with

allowing workers wide discretion as to how they are to achieve these goals. In practicing their discretion, workers are expected "to work together and share together as they plan, diagnose, teach and evaluate" (Sergiovanni, 1987).

Another version of this model was proposed by the system approach to organizations used by the Organization Development line of inquiry (Owens and Steinhoff, 1976). According to this model the school is seen as experiencing conditions of rapid change and having numerous diffuse goals. In order to meet these demands, schools should be organized like an organic system (as opposed to a mechanical bureaucratic system) where interdependence and lateral communication is recognized as important as vertical communication.

A third variation of this organizational model views schools as complex organizations where the complexity of the tasks generates uncertainty and there is a continuous problem of compliance (Etzioni, 1980). One way to reduce uncertainty and increase teacher commitment and agreement about school goals may be by organizing schools into cooperative units and increasing lateral relations between teachers (Etzioni, 1980; Cohen, 1981).

To summarize the three organizational models described above, it seems that because of the nature of the school's task (e.g. uncertain goals) forming collaborative structures within the school may enable schools to compensate for weaknesses inherent in either a top-down hierarchical model or a loosely coupled model.

A promising model which may offer these collaborative structures is the Interdisciplinary Team Organization (ITO) structure. The ITO structure is most commonly used in middle schools. ITO is characterized, according to Erb (1987) and Gardner (1976), by an organizational structure where teachers from two or more academic fields have a common planning period; a common block of teaching time; a common team space; and a shared body of students. This organization structure provides several areas of cooperation among teachers. Within each team, teachers may place students into classes, allocate time for each discipline within the given block of time, decide on the team rules and code

of conduct, and plan mutual instructional activities. On the school level teachers affect the school decision making process through both the team's representative who sits on the building steering group, and the department chair with regard to subject matter issues.

In contrast to the ITO organization, the traditional departmental organization (DEP) may fit more the loosely coupled model (Harriott and Firestone, 1984). Teachers share a common subject matter, depend on each other for obtaining materials and resources, and meet occasionally within their departments; nevertheless, they usually do not share the same students, nor do they have a setting which encourages them to cooperate (e.g. common planning period). Harriott and Firestone (1984) in reviewing the literature on the departmental organization in schools concluded that DEP schools are characterized by disagreement among teachers with regard to school goals, and reduced administrators' influence over teachers.

Do schools organized in ITO structure have a more positive school environment than schools organized in DEP structure as perceived by teachers? This study will explore this question. When comparing school environments the first problem is to identify the elements in the school environment which differentiate between successful and less successful schools.

A recent study by Rosenholtz (1989), widely cited in school improvement literature, identified successful schools (school with higher student achievement) as having teachers who perceived to have goal consensus, teacher collaboration, learning enriched environment, non-routine culture, and commitment to teaching; while less successful schools were perceived to promote low consensus, isolation, learning impoverishment, routine culture, and boredom among teachers (Rosenholtz, 1989). However, Scott and Smith (1987) noted that Rosenholtz (1989) did not indicate whether the two kinds of schools differed in their formal organizational structures. Identifying structural elements which account for the difference between schools can help in improving schools.

The second question is whether empirical studies support the notion that schools with cooperative units such as the ITO make a difference in the school environment. Earlier studies on the impact of cooperative structures in the schools can be attained from studies of multiunit elementary schools carried-out by the university of Oregon and Stanford university research and development centers during the 1970s. Despite the differences between ITO schools and multiunit schools (elementary vs. middle level, open-space schools vs. non-open-space schools) both structures provide for a basic change in the nature of the relationship between teachers from that of isolation to one of collaboration. Cohen (1981) reviewed these studies and found that multiunit schools (especially open-space schools) had increased teacher interaction, teacher interdependence, collegial influence, and decision-making participation on such matters as student promotion and daily scheduling as compared to traditional self contained schools.

At the high school level studies of organizing schools into smaller unit are rare. Goodlad (1984) suggested organizing high schools into smaller self-contained units or houses in order to increase curricular alignment and long-term stable contact between students and teachers. Organizing schools within schools, Goodlad (1984) predicted, would reduce both student alienation and teacher frustration.

At the middle school level, several national surveys of teachers and administrators during the 1980s documented the advantages of the teaming structure. Erb (1987) in a survey of two hundred teachers found that teachers in ITO settings perceived having a better working environment than those teaching in DEP school settings with regard to four aspects: authority system, decision making system, reward system, and communication system. Teachers had more authority over crucial issues such as discipline rules, student rewarding system, and placement and grouping of students. Because the teams of teachers had more input in conducting faculty meetings, the decision making process was more effective and the teachers felt more involved. Teachers also felt

they received more support from colleagues and experienced increase in the quantity and quality of communication with students, parents, and counselors. Finally, Erb reported increased teacher satisfaction in ITO schools compared to teachers in DEP schools.

A recent national survey of principals of middle grade schools (MacIver, 1990) revealed that the most agreed benefits of ITO, with regard to teachers, were the increased social support teachers received from other team members, increased coordination and integration among subjects, and improved quality of solutions to student problems. Middle school case studies support the above findings as well. Lipsitz (1984), in an in depth study of four successful middle level schools, found that teachers identified the ITO structure as most helpful in reducing feelings of isolation. The increase in the amount of time devoted to teacher interaction within the team promoted collegiality among teachers as well as the amount of control teachers had over time allocation.

Lipsitz (1984) says about interdisciplinary teaming,

Most striking is the lack of adult isolation in these schools, unlike the experience of many of the teachers recount from their previous teaching assignment. Common planning and lunch periods, team meetings, and team teaching encourage constant communication and allow for high level of companionship (p. 194).

Finally, only one study (Ashton and Webb, 1986) was found to directly compare ITO and DEP teachers using individual schools as the unit of analysis and providing an in depth description of the school structure. Because of the relevance of the Ashton and Webb investigation to the present study their findings will be elaborated in the following section.

Ashton and Webb (1986) compared middle school teachers who were organized in a tightly connected interdisciplinary teams to teachers in junior high schools which were structured in more

loosely connected departments. Middle school teachers shared the same students, had substantial decision making authority, and met frequently with each other during common planning periods; while DEP teachers shared only similar subject matter, had less decision making input, and met infrequently. Ashton and Webb (1986) reported higher work commitment, more goal consensus, higher levels of efficacy, more involvement in decision making processes, and higher levels of satisfaction among ITO middle school teachers than among DEP junior high teachers. Seeking to further analyze the differences between teachers' perceptions in both settings, Ashton and Webb (1986) conducted a microethnographic study of the same schools and found that ITO teachers had less self doubt and higher self confidence as compared to DEP teachers. The increased decision making participation in ITO settings was believed to contribute to the teachers' sense of community. On the other hand, teachers in traditional departmental junior high schools felt more isolated and were less able to maintain their enthusiasm and high expectations for student achievement. Ashton and Webb (1986) attributed these differences to several organizational features: the team organization which increased the teacher-teacher coupling through constant interaction in common planning area during common planning periods; sharing of decision making by the principal with the staff which increased teacher-administrator coupling through multiple communication channels using mainly the channel of the building committee; and the multiage grouping which enabled teachers to stay with the same group of students over a three year period and allowed for a substantial increase in the link between teachers and students.

To summarize the findings, it seems that the comparison of schools organized into small collaborative units with traditionally isolated schools has been done mostly at the elementary and middle level schools. Most studies sampled teachers across schools and did not focus on the school as a unit. It appears that the main source for the higher morale among ITO teachers is the decreased isolation and increased communication

among teachers as well as increased decision making authority vested in teachers.

In order to test the hypothesis that collaborative structures provide for a more positive school environment for teachers at the school level, this study compared teachers' perceptions of their work environment in ITO and DEP structured schools. This study tested whether teachers who work in ITO settings perceive their work environment more positively than DEP teachers with regard to five variable clusters:

1. relationship with colleagues including sharing instructional goals, collaborating professionally, feeling cohesive or isolated, and socializing new teachers.
2. attitudes toward work including job commitment, obtaining psychic rewards, and feeling certain (efficacious) about their technical knowledge.
3. belief about professional life with regard to learning opportunities, autonomy and discretion.
4. involvement in the school's decision making process.
5. administrators' role in setting goals, recruiting teachers, setting clear evaluation procedures, and providing support in managing students.

Method

Two middle level schools with a school wide ITO setting, and two middle level schools with a school wide DEP structure were identified in a large city in southern Arizona (750,000 population). Telephone surveys of school district administrators and the principals of the identified schools were conducted to assure the schools had either an ITO or DEP structure. Careful attempt was made to choose schools which illustrated an extreme contrast in organizational patterns. The two ITO schools had the whole school organized into teams of six teachers. Each team consisted of four core subjects teachers (social studies, math, science, and English) and two elective teachers (such as art and music). The four core

subjects teachers had common team planning period, proximity of team classrooms, common block of time schedule, and shared students. The other two elective teachers shared only the same students with the core teachers. The two DEP schools had a typical departmental organization with math, science, social studies, and English departments. Classrooms of each department were adjacent to each other and each department had a teacher designated as the chair.

Both ITO schools were located in a predominantly minority low middle Socio-Economic-Status (SES) district with about 60% Hispanic population. One DEP school was located in an upper middle SES district with over 90% white population, while the other DEP school was located in a district with a mixture of high and low SES white, Hispanic and Black population. The upper middle SES school had the highest Scholastic Achievement Test (SAT) scores in the state of Arizona. Differences in SES, ethnic composition, and SAT scores of the student population between the ITO and DEP schools might limit comparisons between the two kind of schools. However, since the dependent variables in this study addressed only school organizational variables, it was expected that differences in teachers' attitudes will reflect more differences in school organization rather than student composition.

Procedure

Teachers at the four schools were asked to spend approximately one hour completing a questionnaire designed to investigate their perception of their school environment during the spring of the 1987-88 academic year. In the ITO schools, out of a total of 108 teacher, 47 teachers returned the questionnaire (44%); while in the DEP schools 31 teachers out of a total of 77 teachers (40%) returned their surveys. The relatively low return rate obtained in this study was expected because of the length of the instrument and the time of the year (near the end of the semester). A Chi-Square

Test analysis of the sex composition of the teachers in both ITO and DEP schools indicated that the samples were representative of the sex composition of the total population of both types of schools. Background information about the age, sex, ethnicity, teaching experience, and type of teaching certificate is given in Table 1.

The teachers were given a slightly modified five-point likert-type Teacher Opinion Questionnaire (TOQ) developed by Rosenholtz (1989), containing 14 scales depicting various aspects of the school environment. Since the questionnaire was originally constructed for elementary teachers, a modification of the survey to the middle level was done in consultation with a middle level school expert and a middle level school teacher. Responses on the survey ranged from strongly disagree to strongly agree, and from always never to almost always. The scales contained elements such as: teacher collaboration, teacher commitment, shared teaching goals, and task autonomy and discretion (see sample items in Table 2). This questionnaire had been used before with a large sample of teachers (1,213 teachers) in 78 elementary schools in the state of Tennessee (Rosenholtz, 1989). Factor analysis and reliability data were provided by Rosenholtz (1989). Coefficient alpha reliabilities of each scale as obtained in the present study are provided in Table 3.

In addition, a random sample of 10% of the teachers in each school were given an open-ended interview aimed at attaining additional information to help interpret the data obtained by the different subscales of the survey. During the interview teachers were asked to tell about the people they worked with (e.g. students, teachers, and administrators); the goals of their school; the decision making process in their school; the most and least satisfying aspects of their work; and their professional development.

Data Analysis

The hypotheses were analyzed using a series of T-test

Insert Table 1 About Here

Insert Table 2 About Here

Insert Table 3 About Here

analyses. Statistical Packages of Social Sciences version X (SPSSX) computer software was used to analyze the data. The 14 TOQ scales, clustered into five categories, served as the dependent variables in this study; while the independent variable was the school organizational structure (DEP or ITO). A Chi-Square contingency table test was performed on the teachers' background variables in order to test for variable independence.

Interview scripts were used mainly to elaborate and provide examples for significant differences obtained between teachers' attitudinal scores in ITO and DEP settings. Those elements which appeared to reoccur among several teachers in both ITO or DEP schools were more heavily considered. In addition, the scripts mainly from the ITO teachers' interviews were used to make informed speculations on the lack of significant differences between teachers' attitudes in the two settings.

Results and Discussion

The T-test results are given in Table 4. The null hypotheses were rejected at the 0.01 level for five of the fourteen scales. The first research question was confirmed. Middle level teachers in ITO schools scored significantly higher (had more positive perception) than teachers in DEP schools with regard to the four aspects of collegial relationship (shared teaching goals, teacher socialization, teacher isolation/cohesiveness, and teacher collaboration).

Insert Table 4 About Here

None of the other research questions were confirmed except for one scale within the attitude toward administrators (school goal setting). The hypothesis of independence could not be rejected for any background variable except for type of teaching certificate. Teachers with a secondary teaching certificate and teachers with elementary and secondary certificate were independent of the type of school, and therefore were combined and compared to elementary certified teachers. The hypothesis of independence was rejected for elementary versus secondary certified teachers (chi-square = 17.39, 1, $p < .005$). This raised the possibility that the significant differences between ITO and DEP teachers with regard to the five subscales might have occurred due to the difference in the type of certificate rather than attributed to the type of school organization. A 2-way Analysis of Variance test of the five subscales was conducted and failed to show any significant differences between elementary and secondary certified teachers.

Following is a discussion of the results of the five research questions.

Research Question #1

With regard to the first research question, teachers in ITO schools shared professional ideas and materials with each other more than teachers in DEP situations. For example, one English teacher in an ITO school described how she had difficulties in explaining to her students the concept of cause and effect. She discussed the problem with other teachers. A math teacher suggested an effective way to explain the idea to the students. Another teacher described how she worked closely with another teacher from her team, "I really have a partner in teaching right now...we plan a lot of things together...I'm teaching on Spain, and she teaches language, and she is putting that information into

paragraph form, and we enjoy it very, very much..." Team members seemed to compliment each other by building on each other's strength in such areas as dealing with early adolescents, dealing with parents, and aligning their school curriculum with the high school curriculum demands.

On the other hand, DEP schools teachers shared less professionally. Communication with regard to instruction seemed less frequent. One teacher who taught mathematics described the extent of exchanged of ideas in his department, "...they are accepting of your ideas, but they're really kind of stuck in their way of doing things, but they'll listen to your ideas. They don't get around to changing very quickly though." Teachers described the relationship between them as socially oriented rather than aimed at professional purposes, "Not a lot of group things go on together, but I do know that people enjoy when they eat lunch together, and things like that."

In ITO settings, teachers repeatedly described themselves as a team, a family, or a unit. One teacher described the type of relationship that existed in her school, "I've seen teachers go and cover classes for other teachers voluntarily. If you're not feeling well, other teachers will come into your classroom while you're teaching just to see how you're doing." The author of this paper had a chance to confirm this. One of the teachers was late to her class after the interview. When she arrived at her classroom, she found that the next door teacher (a member of her team) had taken her students to his class to cover for her. Another teacher maintained, "...while we're each an individual teacher,... we have a support system that is much stronger than if I (sic) were just a teacher with a student that (sic) was having a problem." The nature of the team work carried out by teachers is well illustrated by one veteran teacher. She described how her team was given an assignment to develop a mini contest for the students in their team, "We knew exactly what we needed to do, how the

rules had to be bent for certain advisory groups and it took a maximum of 10 minutes."

DEP school teachers, on the other hand, felt usually isolated. One veteran teacher indicated he was in contact with only two other teachers in the whole school. He explained the nature of the collegial relationship this way, "...it's not that we don't like each other, it's because we all go our separate ways a little more." Another DEP teacher described how isolated she was in referring to attending workshops, "...teaching is such an isolated profession that it's so nice to get around other teachers."

The socialization process of teachers in ITO settings seemed also more effective than in DEP schools. Older teachers seemed to be accepted and appreciated more when they operated in the team. One veteran ITO teacher said, "...I am the oldest teacher in the school yet I'm treated like a complete equal even though I'm slowing down." The team structure, also enabled new teachers to receive more support on a continuous and immediate basis. Several of the ITO teachers indicated that new teachers had an easy time fitting into the school and one teacher even viewed having a new teacher in a team as an asset, "...a first year teacher, a third year teacher, a seventh year teacher; they tend to mold into a better teaming situation."

On the other hand DEP teachers, although feeling positive about teacher relationship in their school, felt that teachers in their school were divided into cliques according to such categories as age, experience, and marital status. One DEP mathematics teacher described how the veteran teachers in his department did not accept him as an equal, and he still felt a newcomer even though he had been in the school for 9 years.

It appeared that the ITO organization enhanced teacher collaboration, interaction, and unity due to several factors: First, the process of school reorganization into an interdisciplinary teamed school had a significant impact. Teachers in the ITO situations described how they had to take

workshops and go through the process of school reorganization. Substantial number of teachers left the school to teach at the high school level; while others, mostly elementary teachers who agreed with the middle school principles, joined the staff. The teachers, who taught at the new middle schools, had to accept the ideas of interdisciplinary teaming, and the emphasis on the social needs of preadolescents. In addition, the process of creating teams increased goal sharing. As one teacher described, "The teams were put together through our principal, of course, but before he even did that, we wrote out our philosophy, we wrote out teachers that we thought we would like to work with, we wrote out reasons why we thought we could work with those teachers...."

Second, the school setting as a whole encouraged teacher interdependence: Both ITO schools had large teacher planning rooms designated for both individual planning and team meetings; the classrooms of each team were adjacent to each other and enabled teachers to easily communicate with each other; and the common daily planning period enabled team members to meet with each other frequently.

In summary, it can be said with confidence that the Interdisciplinary Team Organization of the two middle level schools in this study had made a difference in the degree of collaboration among teachers. This result agreed with previous research on school structure, middle schools, and multiunit schools. Structuring the schools into cooperative units increased actual teacher communication and cooperation with regard to various teaching functions.

Research Question #2

The second research question dealt with a comparison between ITO and DEP teachers' feelings toward their work. Based on previous literature it was anticipated that teachers who worked in a team situation will feel more committed to their work, become more satisfied with their job, and believe more in their ability to make a difference than teachers who worked in a departmental situation. However, no significant differences between the two

groups were detected. Several possible explanations may be appropriate here. First, the lateral relations between teachers in ITO schools were still hampered by the lack of communication between teams especially between different grade levels. In addition, the elective subject teachers (e.g. art, music, and physical education teachers) who were all part of the teams, did not share the same planning period and proximity as the four core team members did. An art teacher indicated, "...all the elective people are taking various classes, groups of kids so that the other teachers may have a prep period, and we're all separated from the rest of the school." This segment of the ITO schools' teacher population may be less satisfied with the teaming situation than the core subjects teacher. The same art teacher contended, "The principal and all the administration saw our course work as being...a holding time...for kids, for the other teachers to take a break..." ITO elective teachers might feel more left out than elective teachers in DEP schools because of the emphasis on the team in ITO schools rather than on the departmental unit.

A second explanation might be the lack of decision making input for teachers in ITO schools. Several teachers indicated that they felt changes in the schools were conducted in a top bottom fashion, "But there have been occasions when the teachers and the students have not been really enthusiastic for an idea, but the idea still went ahead." This aspect will be elaborated in the decision making process research question section.

A third explanation might be the lack of long term relationship between the teachers and the students in their team (only one year contact). A previous study (Ashton and Webb, 1986) found multi-age three year long term relations between middle school teachers and students to be "the most positive and satisfying part of their work because it allowed them to know their students well and to trace their development over time." (p.119) In contrast, ITO school teachers, in this study, taught the same students only for

one academic year and were not able to maintain a long term relationship with these students.

Other explanations involve school circumstances which impede on teachers' attainment of instructional goals. Lack of sufficient resources was commonly reported as a source of dissatisfaction by ITO teachers, while DEP teachers did not indicate that factor as a major source of discontentment. Item by item T-test analysis comparison revealed that DEP teachers believed they had significantly more resources available to them than ITO teachers. In summary, ITO and DEP schools did not differ on important variables which seem to directly affect teacher job satisfaction and commitment.

Research Question #3

The third research question dealt with DEP and ITO teachers' belief about their professional life focusing on learning opportunities, and autonomy and discretion. Teachers in a team situation were expected to get more feedback from other teachers and administrators as well as to experience less conflict between their professional needs and school rules and policies. Again, no significant differences were obtained.

Several factors might account for the lack of differences in autonomy and discretion. First, ITO schools went through substantial changes in the last three years in addition to the structural change. One teacher listed those changes, "Outcome based education; essential elements of instruction; assertive discipline; parental involvement; the matrix; the list of things that we've implemented in just the last 3-4 years ... is about a mile long." Several teachers viewed these changes as coming from top-down and impeding on their professional discretion. An experienced teacher indicated, "...programs are being placed upon the teachers that the teachers have not decided this is what to do." It is important to notice that all of the new programs were installed school wide without input and discussion within each team. It appeared that the interdisciplinary team did not operate as a support unit to protect the teachers' autonomy.

A second factor which has affected teacher discretion was the increased school administration control over resources in ITO schools. For example, a teacher described how the principal increased centralized control over resources, "...when we came back in the fall, our little supplies were all gone. They were put into a main supply room, so if you want any paper, or scissors, or glue; you make out a requisition." In both ITO schools centralized district and school control, as well as budget cuts prevented teachers instructional autonomy. Again in both cases the team did not operate as a unit with any significant control over resource allocation.

Teachers did not view their team as a source of professional development as well. Although teachers obtained information and ideas for instructional purposes from team members, they did not perceive that as professional development. When asked, teachers usually cited university classes, inservice workshops, and background as the main source of their professional development. Principals were cited as inservice information providers but their evaluations were not acknowledged as an important source of professional development. In conclusion, the team unit in the ITO schools did not serve the function of increasing work autonomy and professional development, and therefore no differences were identified between and ITO and DEP schools.

Research Question #4

The fourth research question tapped on the issue of school decision making process. It was expected that schools which use the team organization model will involve the teachers in a a more meaningful way in the decision making process with regard to selecting instructional materials, curriculum, type of inservice, and teaching methods; than schools which use the department model. The results, however, yielded no significant differences. In depth analysis of the interview data suggested that the teams in ITO schools were not given the authority to make important instructional decisions. The team operated more as a channel

to increase vertical communication rather than as a unit where important decisions were made. Team members took turns as team representatives on the building steering committee but did not have real input into the school wide decision making process. One teacher explained "...say it's my turn to be team leader... then I will represent my team...basically it serves as a way of giving information to the team." Another teacher compared the decision making process they had before and after they moved to the ITO model, "Before we were a middle level school, we used to take them (school decisions) back to our departments...But then (now) they talk about it in the teams...But mostly the final say-so belongs to our principal. Definitely!" Teachers felt they had some say in the decision making process, but the team role did not make a difference, "We have input through either the head of our team, and some of the programs are departmentalized...but it's the same group of people."

In both departmental and team organized schools the key role of the principal as the final decision maker was emphasized. In the ITO schools both principals were described as strong willed even when they allowed teacher input, "If she likes what we discuss and what we decide, she may go with it; if not she'll say 'okay let's put it on hold right now, so we can think about and we'll come back to it next week.'"

Research Question #5

The fifth research compared how teachers who worked in ITO settings and teachers who worked in DEP settings felt about their administrators with regard to setting goals, recruiting teachers, setting clear evaluation procedures, and providing support in managing students. Goal setting score was the only variable significantly higher among ITO teachers than DEP teachers. ITO school teachers indicated their principals set more explicit goals for teaching and students achievement, conducted more instructional relevant

faculty meetings, and provided more support for professional interaction among teachers than DEP school teachers did. Since both ITO schools went through the process of changing from a junior high school to a model middle school, this result was expected. The principals were chosen specifically to establish a middle school with ITO and other common features typical to middle school (e.g. advisor advisee program). The principals seemed to be committed to the goals they were trying to achieve. In one ITO school a teacher commented about the principal "She is very, very knowledgeable in middle school (sic) and she has helped guide me to where I feel that I am very competent in school techniques in my area". On the other hand, teachers in DEP schools seemed less sure of what the goals of the school were as one teacher indicated, "...I don't know. I don't know that they (school goals) have ever been set." Another teacher said about school administrators, "They let the teachers do their own individual things. They're real good about that, because, you know, teachers are all different." It appeared that the major source of higher goal setting among ITO schools was the process of reorganization these schools went through and the selective process of choosing the principals.

Other aspects of administrators' functions did not yield significant differences between ITO and DEP schools. In the process of recruiting new teachers principals did not involve the teams on a consistent basis, "If they're (administrators) looking to fill a position on your team, the team leader may be asked to come into the interviewing process...sometimes they are asked, and sometimes not..." With regard to teacher evaluation and management of student behavior, since interview questions did not specifically address these issues, it was not possible to make any firm conclusions with regard to the lack of differences between ITO and DEP settings.

Summary and Implications

This study examined the differences in teacher perception of their school environment between schools that were organized in different ways. Two schools were organized in a departmental fashion which was expected to adhere to a loosely coupled model where teachers are more isolated and communication among school members is limited; while two schools were organized into an interdisciplinary team model which resembled more cooperative models with increased emphasis on horizontal communication, cooperation among teachers, and decision making participation. The results were mixed.

On the positive note results showed that teachers in ITO schools were less isolated and collaborated more with each other. Changing the structure and the nature of the interaction between teachers is a positive step toward school improvement. Studies of other settings which enhance adult cooperation support this study's findings. A meta-analysis review of 133 studies indicated that adult cooperation promoted positive interpersonal relationship, social support, and positive self esteem (Johnson and Johnson 1987). The authors concluded that,

Organizing teachers and administrators into collegial support groups, therefore should result in greater productivity and expertise, more positive interpersonal relationships and cohesion as staff, increased social support within the faculty, and enhanced self-esteem for the educators. (p.30)

Organizing schools into interdisciplinary teams also has implications to school improvement. Huberman (1990) argues that organizing schools into sub-groups of teachers with substantial common instructional interests is a more stable school improvement feature and is more likely to remain for a long period of time. This assertion is supported by the persistence of the ITO

structure since the 1960s, and the findings of a recent national survey that 32% of all public schools use ITO at the 7th and 8th grades; and that by 1992, 60% of middle schools (6-8) and 7-8 schools expect to use ITO (Epstein, 1990).

However, on most other aspects, ITO and DEP school teachers did not differ. In analyzing the interview data of the sample of ITO teachers it was discovered that the team as a unit did not operate as a significant factor in school wide decision making issues. Teachers in ITO settings felt the input they had into the decision making process was inconsistent. On one hand principals were perceived as providing more directions in ITO schools than in DEP schools, on the other hand they were perceived as insisting on achieving their goals even when it did not fit into teacher needs.

Organizational humanism theory as established by Elton Mayo (1946) and McGregor (1960) stresses the importance of providing workers with opportunities to participate in the decision making process, which in turn may increase commitment to the shared decision as well as increase work satisfaction. In the case of schools, increased decision making has been reported to increase teachers' satisfaction and feeling of commitment to their job (Rosenholtz, 1989; Ashten and Webb, 1986). In the multiunit elementary school study, mentioned before (Meyer et al., 1971), increase in teacher satisfaction was associated with increase interaction of team teachers only when it was accompanied by increased teacher sense of influence. Another study (Charters et al., 1986) found that teachers' feeling of autonomy and job satisfaction were less closely associated with teacher participation in faculty teams than with the presence or absence of dominance by school administrators .

It appeared that in the process of school change from junior high school to middle school conflicting trends had occurred. On one hand the establishment of the ITO was meant to increase teacher input into the decision making process;

on the other hand, the extensive establishment of various educational programs resulted in more centralized control over teachers. One veteran teacher who was a main critique of her school said, "We are in a period right now where our teachers do not have a great role in deciding what's going to happen here at this school, because the reform of the Sun district¹ is coming from the top down."

It seems that the ITO schools in this study did not fulfill all the expectations derived from combining the bureaucratic model and the loosely coupled model to form a more effective cooperative model. The ITO structure provided for reduced teacher isolation, but did not furnish for increased collaboration and decision making sharing at the school level.

Kasten and Wilburn (1989) in a study comparing the self management capacity of ITO teachers and DEP teachers made similar observations, "While the middle school interdisciplinary teams we observed did demonstrate more self-management behaviors than the academic departments, the teams did not demonstrate the ability to deal with substantial issues." (p.20) The researchers concluded that, "...unless the school principal and the school district administrators are willing to permit teacher work groups to make decisions and recommendations on substantive issues, it is unlikely to happen." (p.20)

Further study of the degree and nature of the decision making participation used in schools which use the teaming approach is an important conclusion of this study. If middle schools are to reform the education of early adolescents and provide students with input into their school affairs they must model it by providing teachers with more input into decisions affecting their work. In order to preserve the positive outcomes of the ITO setting as obtained in this study and previous ones, the ITO model should be accompanied

¹ name has been changed

by school wide and perhaps even district wide decision making participation.

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Table 1

Background Information of Participating Teachers

<u>Information</u>	<u>ITO schools</u>		<u>DEP schools</u>	
	Number	%	Number	%
Age				
20-29	11	23	7	23
30-39	20	43	12	39
40-49	10	22	6	20
over 50	5	12	6	18
Sex				
male	35	74	16	52
female	12	26	15	48
Ethnicity				
Anglo	37	79	28	91
Hispanic	9	19	1	3
Native American	-	-	1	3
Other	1	2	1	3
Teaching Experience				
1-3 years	4	9	8	26
4-7 years	14	30	3	10
8-10 years	10	21	6	19
over 10 years	19	40	14	43
Type of teaching certificate				
elementary	28	60	3	10
secondary	9	19	13	42
elementary & secondary	10	21	15	48
Middle school endorsement				
Yes	22	47	7	23
No	25	53	24	77

Table 2

Teacher Opinion Questionnaire (TOQ) sample of scale items

1. Shared Teaching goals
At this school, we agree on the objectives we're trying to achieve with students.
2. School goal setting
We have explicit goals for student achievement in this school.
3. Teacher recruitment
Our administrator(s) consults with teachers here before hiring new personnel.
4. Teacher evaluation
The standards by which my teaching is evaluated are clear and well specified.
5. Teacher socialization
The faculty makes new teachers feel very welcome at this school.
6. Isolation/cohesiveness
Most of the other teachers in this school don't know what I do in my classroom or what my teaching goals are.
7. Managing student behavior
There are explicit rules for student conduct at this school.
8. Teacher collaboration
Other teachers at this school seek my advice about professional issues and problems.
9. Teacher certainty about a technical culture and instructional practices
I feel that I am making a significant difference in the lives of my students.
10. Involvement in decision making
In this school, teachers participate in selecting instructional texts and materials.

Table 2 (cont.)

11. Teacher learning opportunity

At this school, I have many opportunities to learn new things.

12. Positive feedback (or psychic rewards)

I take pride in the things my students accomplish.

13. Teacher commitment

The teachers at this school like being here; I would describe us as a satisfied group.

14. Task autonomy and discretion

I can take little action at this school until a superior approves it.

Table 3

Alpha Reliability Coefficients for TOQ Scales

Scale	Reliability Coefficient
1. Shared Teaching goals	0.59
2. School goal setting	0.75
3. Teacher recruitment	NA*
4. Teacher evaluation	0.70
5. Teacher socialization	0.66
6. Isolation/cohesiveness	0.76
7. Managing student behavior	0.68
8. Teacher collaboration	0.57
9. Teacher certainty	0.80
10. Decision making involvement	0.63
11. Teacher learning opportunity	0.72**
12. Positive feedback	0.61
13. Teacher commitment	0.75
14. Task autonomy and discretion	0.84

* two item scale. One item deleted from the original scale.

** One item deleted from the original scale.

Table 4

T-Test score results comparing ITO and DEP teachers

subscale	mean		T value	Deg. Freedom	Prob.
	ITO	DEP			
Collegial Relationship					
Shared Teaching goals	3.76	3.49	2.80	71.3	.007*
Teacher socialization	4.00	3.46	3.78	60.4	.000*
Isolation/cohesiveness	3.98	3.54	3.37	71.6	.001*
Teacher collaboration	3.72	3.41	3.20	70.7	.002*
Feelings toward work					
Teacher certainty	3.91	3.75	1.55	73.8	.126
Positive feedback	4.05	3.93	1.34	72.4	.186
Teacher commitment	3.79	3.72	.67	60.9	.503
Professional life attitudes					
Learning opportunity	3.41	3.40	.13	70.6	.898
Autonomy & discretion	3.90	3.89	.05	74.4	.963
Decision making process					
Decision making	3.67	3.77	-.83	72.9	.407
Attitudes toward administrators					
School goal setting	3.76	3.27	3.6	57.4	.001*
Teacher recruitment	3.75	3.86	-.66	65.8	.510
Teacher evaluation	3.55	3.39	1.57	73.9	.120
Manage student behavior	4.01	3.82	1.62	68.2	.109

* significance level $p < .01$