Education Policy Perspectives

Realms of Knowledge: Academic Departments in Secondary Schools

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that this kind of discussion is something she has tried to have in the past, but has been unable to accomplish. She reports being 'glad' the suggestion came, and came from a teacher — maybe now it will work.

Departments at Highlander are formal mechanisms, and architectural divisions, but they are tied together by a powerful sense of school as community, and by the active involvement and control of the administration. Highlander provides a case where departmentalization is strong, but the departments themselves are not.

Conclusion

These are the three high schools in which the study took place. All are comprehensive high schools, all fairly large, all reasonably typical of what American high schools are like.

At the same time the three schools create quite different contexts in which departments operate, and are clearly quite different places in which to teach. What resources are available and for what purposes they are most needed, who the students are and where they are going, how much discretion teachers have over what they teach, all can be understood as school characteristics. Teaching at Highlander is not like teaching at Oak Valley. Yet looking at the schools gives only part of the story, for teaching in the English department at Oak Valley is not like teaching in its Science department either. The following chapters examine the roles the academic departments themselves play in dividing schools and creating distinctly different contexts for the teachers within them.

Notes

1 A full list of interviews which were used for this study, and an explanation of the coding used to identify the sources, can be found in Appendix A.
2 Survey items are included in Appendix B. The index referred to here looks at the degree to which teachers identify with the department rather than the school. The range is 4.6 (in an alternative school with nine teachers) to 9.5 out of a possible 12 points.
3 These departments and their stories are included in the larger CRC study — see, for example, Little and Threatt's 1991 analysis of vocational teachers in 'Work on the Margins'.
4 'Lake Wobegon' is a fictional Minnesota town created by writer Garrison Keillor in the 1980s.

Chapter 4

Boundaries and Barriers

> For let no one be deceived, the important things that happen in schools result from the interaction of personalities. (Willard Waller, 1932, 1967)

> There are major interactions here in the department: little celebration, but here in the department we coordinate, we collaborate, we have kind of a modified team-teaching type situation. We share materials and curricula. Not much at all outside the department . . . For myself, I just don't leave this wing that often, unless I have to go to the office or run an errand. I have the materials I need here. I'm comfortable here. (Yancy Dean, Science teacher, 1989)

Willard Waller began his *Sociology of Teaching* with the assertion that what is most important in understanding the 'concrete realities' of schools is the 'web' of social relationships amongst those who inhabit them. He set out to tell 'what every teacher knows, that the world of the school is a social world. Those human beings who live together in the school, though deeply severed in one sense, nevertheless spin a tangled web of interrelationships; that web and the people in it make up the social world of the school' (preface, p. 1). But while teachers in this study confirm the importance of social interactions, both in constructing their own sense of professional identity and in influencing what they do while in the 'deeply severed' confines of their classrooms, their sense of the 'tangled web of interrelationships' and the boundaries of their social worlds differs sharply from that which Waller detailed sixty years ago. For, as Yancy Dean puts it, and as so many of the teachers in this study attest, the social world of the school has expanded to such a degree that it has finally contracted, or splintered, to where the department rather than the school effectively marks the bounds of 'major interactions' for most teachers.

This chapter examines the boundaries departments create within schools, and the barriers they present to school-wide communications and interactions. Oak Valley and Highlander provide examples of highly departmentalized high schools. In those settings boundary strength can be understood in terms of:

- the continuing need for social relationships;
- the increasing size of schools (which makes the full faculty too large to satisfy the need and leads to the development of subgroups);
- the architectural design (which creates barriers to school-wide or interdepartmental relationships, and makes the department the most likely subgroup); and
- the institutionalized pull of academic orientation (which makes local attempts to restructure schools to break down those traditional barriers unlikely).

Rancho allows an opportunity to examine departmental strength from a different angle, for that school has made a concerted — but not entirely successful — effort to break down departmental divisions. Finally, network analyses of Oak Valley and Rancho provide graphic illustrations of how departmentalization 'looks' in the 'webs' of social relationships within these schools, and shows that variation in the strength of departmental boundaries can be not only a school-level phenomenon, but a department-level one.

Boundary Strengths

Social Relationships

In the sixty years since Waller's benchmark study, teachers have come to 'live together in the school' for longer and longer periods, as both the school day and school year have increased, and as more and more teachers have stayed for far longer careers. Nationally, the median for years of teaching experience rose from eight years in 1976 to fifteen in 1986 (NEA, 1987). Within these three schools tenure is even higher. The average number of years in teaching is 24.2 at Highlander (where lay-offs have almost eliminated teachers with less than eighteen-years experience), 22.2 at Rancho, and 17.7 at Oak Valley. These are teachers, then, who have been 'living together in the school' for long periods; many have come to know each other well, and can justifiably claim, as they do at Highlander, that they are 'like family'.[1]

These are conditions under which relationships can develop to a

remarkable degree of intimacy, and teachers in all three schools, in interview responses and in observed interactions, demonstrate detailed knowledge of both the personal and professional workings of each others' lives. In fact, in several instances they report having married colleagues. Conversations in faculty rooms and hallways move quickly from children and funerals to which student has done what in class; frequently first names are enough to identify what are clearly familiar subjects. In such conversational shifts, the lines between personal and professional aspects blur.

Attending to such conversations, Judith Warren Little notes, 'calls into question the crude distinction between "social talk" and "teaching talk" ' for the two 'become intertwined' (Little, 1991, p. 9). Often the two aspects are interwoven in a single exchange, difficult for speaker or researcher to disentangle. A Home Economics teacher, asked to describe her department, begins with the formal language of the professional, 'we're very fortunate in that we have four in our department', but moves quickly to the personal, 'I'm a very close friend of [another teacher] anyway, so I usually see her after school hours, stay in touch. But it is a fairly close knit group', and finishes with a mix of the two, 'we do develop curriculum somewhat. At least we interact with each other, to bounce things off each other.' Through informal exchanges, this 'bouncing things off each other', teachers establish norms of what should be taught and how, and of what it means to be a teacher and a colleague.

In another example of how the 'important things that happen in schools result from the interaction of personalities' and how personal and professional aspects intertwine, a Math teacher at Rancho describes the value of a friendship in which he and two colleagues have come to know each other, and to 'work together as a team', since they have been teaching together for 'almost twenty-five years'. In fact, when one was transferred to the then new Rancho, the other two soon followed. This teacher attests to the importance of that social relationship, not only to his personal life, but to his classroom performance:

> We used to spend our lunchtimes together, talk about calculus, and how to present a particular problem, how to make it clearer, different kinds of problems that he'd used in the past that he thought were really neat. We used to do that kind of thing. In fact, the idea of a limit, I never, I went through that kind of in cookbook steps when I was in college, but it wasn't until we got over to Esperanza [his former high school] and I had to teach that and math analysis, and calculus. And Dan and I got together and we spent hours after school going over it, until finally we had really an understanding of what it was about. And we could teach it.

Social relationships remain central to these teachers, personally and professionally. With longer tenure in schools and in teaching, these interrelationships take on special salience and meaning, and the bonds between teachers are strong.

Size

While the time to form social relationships has expanded, teachers find that the size of the social world the school represents has grown faster, and exceeds their capacity to form relationships. Despite occasional and temporary staff reductions, as at Highlander, the general trend throughout the century has been one of consistent expansion in numbers of students and faculty (Meyer *et al.*, 1986). The High School and Beyond data suggest that the typical high school in the 1980s has 1200 students. Rancho, the smallest of these three schools has 1800 students; Highlander has 2100. At Oak Valley, the largest of the three schools, and large even by today's standards, there are 3200 students, and 137 teachers. And size, as a Highlander teacher who has taught in a smaller school succinctly puts it, 'makes a hell of a difference'.

Such numbers, whether the 1200 of a typical school or the 3200 of Oak Valley, make it impossible for teachers to maintain relationships, or even to have interactions with all of their colleagues. They report repeatedly that there are too many teachers, too much space, and too little time for them to know other teachers by name, let alone to develop a sense of 'living together in the school' or sharing a common enterprise. With so many teachers, the close relationships they maintain with a few teachers contrast sharply with the more general sense of one's colleagues as virtual strangers.

This is particularly evident at Oak Valley, where the size of staff and the sprawling architecture of the campus make the problem dramatically apparent. Here an unknown teacher posted a 'letter to Santa' on the mailroom door, with 'my wish list for Christmas' including wish 'No.3: to know who I work with (who's the tall guy with glasses?).' One teacher described attending a state conference, where she was pleased to meet another teacher who seemed to share some of the same problems she was facing — but then was embarrassed when she asked what school he was from, and he responded 'Oak Valley'. Another incident revealed the opposite side of the same problem: on an early visit to the school, as I sat in the mail room, a teacher came over to conspiratorially whisper that the woman who had just walked into the room was a Stanford researcher — he assumed that though I was an unfamiliar face, I must be another faculty member. As one teacher observed, even when teachers do meet, and would like to get to know their colleagues, they often seem like strangers:

'sometimes . . . we walk up to the office, and you talk to people [from] across campus, [saying] things like "gosh, you still work here?" '

While Oak Valley is the largest of the schools in this study, the same lament echoes in the conversations of teachers across the sites. Although at Highlander all teachers are housed in the same building, the presence of 100 teachers overwhelms the teachers' capacity for getting to know each other. One noted that he 'went to a . . . meeting this week and talked to another teacher from this building, but I barely knew his name'. And when asked about the faculty, a Social Studies teacher responded that 'in this building there are many people I do not know, so it's a pretty large staff'.

The problems of dealing with a 'pretty large staff' are not unique to these sites. High schools in general tend to be large organizations with 'pretty large staffs' of largely unfamiliar colleagues.

Subgroups

The combination of teachers' desire for social relationships with a school size which exceeds their capacity for socializing encourages teachers in these large high schools tend to form smaller, closer 'webs': subsets of colleagues with whom they have particular interests or characteristics in common. The recent educational literature has tended to portray two extreme, and contrasting visions of the social worlds of schools, but neither satisfactorily captures the high schools these teachers inhabit. On the one hand are the models of the school which display what Huberman calls 'the vision of the school house as a bonded community' — the vision which is encouraged in the literatures of effective schools and of restructuring, and is characterized by shared goals and collaborative norms (Huberman, 1990). Nias (1989) describes the workings of such communities, in her observations of smaller elementary schools, which create a 'culture of collaboration' through collective activities such as the school assembly (p. 2). Examples of such school-wide communities exist in the Center study of high schools, in the smaller, 'special-mission' schools (McLaughlin, Talbert and Phelan, 1990). At large high schools, such as Oak Valley, bonding activities such as school assemblies are impossible: there is no space which can even hold the entire staff.

On the other hand are the images of those researchers who suggest, usually deploringly, that schools display what Andy Hargreaves (1993) calls 'isolation, individualism, and privatism, (p. 54)'. These are visions of alienating environments, with 'egg-crate' or 'cellular' classrooms staffed by isolated teachers engaged in 'parallel piecework' (Lortie, 1975; Johnson, 1990b; Metz, 1990). Consistent with this model, though more positive in tone, Huberman suggests thinking of teachers as

'artisans' who 'work alone, learn alone, and who derive their most important professional satisfactions alone' (Huberman, 1990, p. 11).

The teachers in these high schools take a more pragmatic view of community and schools. They acknowledge the logistical constraints of size, time, and space which make it impossible to establish a school-wide 'bonded community', but also the value of social support and collaboration which makes it impossible to settle for 'fragmented individualism'. Instead they negotiate a middle ground, one in which there are fragmented communities — the smaller social worlds of social 'subgroups' within schools which have been largely neglected in the literature (Huberman, 1990; Little, 1990a). While the trends in career length allowed for long-term relationships to develop, the time intervals for establishing such connections remain small: twenty minutes of preparation before school, five minutes snatched between classes, forty minutes for lunch. They can't know everyone, but want to know someone, so, as one puts it: 'I work well with a few colleagues.'

There are a variety of such subgroups in these schools, small clusters of 'a few colleagues' who find each other and maintain close and consequential interactions. Some, such as that described above by the Math teacher at Rancho, draw their relationships 'from my first years of teaching' and continue over time and even across schools. Another cluster at Rancho describe themselves as sharing a 'pedagogical philosophy' which binds them together. These are a self-selected group who come together almost every day at the same lunch table, who tend to volunteer for low-level classes, who spend much of their lunch hour talking about teaching as an art, or about the needs of their students, and who have an amazing repertoire of slightly off-color jokes. At Highlander one of the most clearly defined clusters is the smokers, who congregate in the one room where their habit is allowed every chance they get. The value teachers place on such collegial clusters is perhaps best exemplified by a teacher who quit smoking several years ago, and now can't stand the smell of the room; she still spends every possible break in the smokers' lounge with her 'support group'.

These support groups mediate the alienation of being lost in the crowd at large high schools. Subgroups provide sites for dense and close 'webs of interrelationships' to form.

Space

For most of the teachers in this study, the smaller web of interrelationships, the subset which dominates the social world of the school as they know it, is the department. While the combination of size of school with the desire for social community makes the formation of some form of subgroup likely, it is the addition of architectural layout

that makes the department the most likely form for that grouping to take. For, as one teacher observes, the Oak Valley faculty is a 'young staff, very professional, very caring to students and for each other, somewhat fragmented and large, and the way the school is designed we're departmentalized'.

The 'way the school is designed' has particular significance, for departments are architecturally divided from each other in all three of the schools studied, a physical condition which has major implications for bounding social interactions. Again, as with size, Oak Valley provides the most obvious illustration, for classrooms and offices are in separate buildings, clustered by subject, and at considerable distance from one another. This separation is reenforced by the absence of any common area for staff to congregate (except a small lunch area with room for about twenty teachers); faculty tend to spend what free time they have within the confines of their departmentalized territory. The combined constraints of small segments of time and large distances to cover largely preclude or make a 'hassle' any interaction beyond departmental boundaries, even for those teachers, such as the union representatives, who have special incentive to establish them:

> During break I go to the [department] resource center. During lunch I go to the resource center, and that's usually all the contact I have . . . I've been trying to get out, I haven't always been successful, to get over to the faculty lunch area and talk with other teachers and see what's going on with them [in her role as union rep.]. But it's an effort on my part, it really is. (Math teacher and union rep.)

> We're too big [for contact with other teachers]. We're spread out in different buildings; there is no central area for teachers to meet and be together; the lunchroom is minute; and I know many people never set foot out of their faculty rooms in their departments, so I never get to know them. (Science teacher and union rep.)

> It gets to be such a hassle to try to go and have lunch, 'cause we don't have much time, and we do have a nice facility here and a nice group of people, so it's nice . . . it's mostly here. It's mainly because it's so hard to get over to the other area and eat. (Math teacher)

The sense of 'effort' required to 'get out', of the 'hassle' departmental boundaries create, appears in slightly different form at Highlander, where the school is smaller and occupies a single three-story building. Here the classrooms are clustered in

name of the subject which predominates: 'we call it the Social Studies wing, but we also have Foreign Language in that wing.' Each of the departments has a separate lounge, although Math and Science, the two magnet departments which have the entire third floor, have separate ends of a large, shared, lounge. Joan Frances refers to this physical arrangement when she talks about how 'they haven't moved my room. I'm not in the English wing. So I'm kind of out of the realm.' Although she is officially an English department member, her classroom is in the Social Studies wing; as a result, she has less contact with her department colleagues than she would like, and fewer opportunities for collegial support.

This physical concentration of department members is consequential not only for Frances, but is a recurring theme in Highlander teachers' comments, for with limited time outside of class they find it difficult to venture out beyond the spatial constraints of the departmentally bounded wings:

> It's geometry. It's physical layout. And so we have a nice convenient little [area] up on the third floor in one end where you've got a lot of Science people all working. Then right adjacent to us there's a lot of Math people. So, you know, I see a lot of those people regularly. To find other people, you really have to go some place and look for them. That's largely the way the thing is arranged physically. If you're busy, if you're working, you don't think about trying to meet all hundred teachers in the building . . . If you asked me to start naming all the teachers in this building, I'd have a horrible time. (Science teacher)

> Because one thing we, I, noticed when I came to this building, is that because of the way it's set up, Social Studies is in one wing. English is in one wing. Science, Math, there's not really much communication between the departments, compared to the situation I was in before, which was a junior high situation . . . Now we've got a lounge for every department, and there's really not much you can do. There are some teachers, I don't know, you know I see them in the hall, I may say 'hi' to them. There are some teachers I really don't know [what] their names are, because of the way it's set up in the structure. (Social Studies teacher)

> I see a lot of the Math department because we are up on the third floor, and you just don't go up and down a lot. (Math teacher)

> You're departmentalized [here]. I don't know what's going on in other departments. [You] only have an hour lunch and an hour of planning; in that time you have to phone parents and prepare for the next day, grade papers, etc. You just don't get out in the building. (Social Studies teacher)

The physical layout of the buildings, the grouping of classrooms around subject lines, and the provision of departmental 'lounges' at Highlander and 'resource rooms' at Oak Valley, create significant barriers to school-wide, or to interdisciplinary, social relationships. With too many things to do in too little time, most often, it seems, 'you just don't get out' of departmental territory, even if you try. Departments become isolated from one another, lessening the possibility of school as community. While the existence of potent departmental boundaries is most obvious at Oak Valley, and nearly as apparent at Highlander, it is most intriguing at Rancho, for here the school's unit structure deliberately tried to break down these barriers.

Breaking Barriers at Rancho

Rancho provides a case which testifies to the strength of these departmental boundaries — and to anchors other than size and space which hold them firmly in place. The model which the original Rancho planners developed took into consideration the issues of size, space, and time in designing the advisory units which were to break down departmental barriers. Yet the departmental boundaries, temporarily and partially submerged beneath the unit structure, have resurfaced.

One of the purposes of the Rancho Plan was to deliberately break down departmental boundaries:

> It was designed in order to allow people to meet people outside of their department. It was to get away from The English Department, The Math Department. So people were in units where they were mixed . . . that was the whole idea to have the units: to get away from each department for themselves.

The units were to provide the alternative, to fill the same subgroup needs which departments did, but to center around students rather than subjects. As an administrator recalls,

> the units were really a way of having teachers structured in a non-departmental fashion. And the thing they had in common was being advisors, and the focus was the role of the advisor. And the idea was that you would force teachers, because of the set that you would put them in, you would force them to

> really look at the total student. And to look at the educational experience from an organizational point of view. And so when you talk about organizational changes, or thrust, or looking at a new magnet focus, or trying to decide how to realign advisory, you do it through that arena. Now there are still some things that you can discuss in your department. The department focus is fairly narrow, isn't it? It has been. They tend to look at English as the only thing that is of concern. And you know, perhaps that's the way it should be. You need to have some of that kind of an ethnocentric way of looking at it. But we wanted for each teacher to play both of those roles. To also look at the school as a whole, just as an administrator does, or a counselor. Most teachers don't have that experience in high school.

The plan was designed around student needs, but it was also attentive to the needs of staff for collegial interaction. Units would provide what an English teacher calls 'a sense of community', that the school as a whole was too large to provide. Many of the teachers link the value of the units to their own need for a social group: 'the unit provided a structure for community, a means of support' observed a second teacher; 'it makes the school smaller and mitigates alienation' noted a third.

The unit plan addressed not only size, but space. In classroom assignments subjects were, at least to some degree, scattered, and department offices non-existent. Instead Rancho set up unit offices to serve as central gathering places, as sites for teachers to store their belongings, to make phone calls, or to work between classes — to be literally a 'structure for community'.

These unit offices, where teachers had their desks, began to fill with the trappings to make them more attractive, and more of a home base: coffee makers, a microwave, a comfortable couch, posters and pictures. And each Unit began to take on a distinct identity, a personality of its own: 'Unit 3 is argumentative; Unit 1 has strong personalities; Unit 2 is the good guys . . . [we] find it easy to make decisions, we get along' reports a perhaps somewhat biased member of Unit 2.

If size, the need for community, and space were the only thing holding departments together, these divisions probably would have collapsed. To some degree they did. But these were not the only forces at work, and the Rancho planners found department boundaries to be extremely resilient lines.

Institutionalized Boundaries

From the beginning the staff apparently recognized that factors both external, in the expectations of the wider community, and internal, in the orientation of subject-specialist teachers, would push and pull on the unit structure. In interviews these teachers referred repeatedly to their sense of belonging to external, subject-based communities — to the need 'to go to science conferences and things like that', to their friendships and professional contacts with teachers from within their fields but outside the school, to the demands of subject-based exams such as the College Boards and Advanced Placement tests, and to the feedback of returning students who report on their performance in the subject in college. One of the original English teachers remembered the push 'from outside — colleges, district mandates', observing almost wistfully that Rancho was 'intended to be interdisciplinary' but 'the secondary school was simply too entrenched in their [traditional] structure', particularly in terms of curriculum, so that 'everyone was willing, there was extra money to make it work, but the plan just didn't materialize'. They 'couldn't resist the weight' of the push; it was just 'too much to take on'.

And a vice-principal commented on pull from inside — from the strength of the individual teachers' orientation to subject:

> we had representatives from the units, that were elected by their constituents, they were to kind of represent the student and the school as a whole. And of course, none of that is that clean . . . no teacher is ever going to think about his role as an advisor and forget that he's a social studies teacher. But it's interesting, when people are given roles, they tend to somewhat fulfill those roles. I think that kind of happened.

For a while, despite the push and pull of subject-specific pressures, of institutionalized roles, routines, and expectations, an uneasy compromise was reached where it was not 'that clean', but it 'kind of happened'. The staff, as they remember it, worked hard to make the Unit structure work.

Comfort Zones

In the beginning, the teachers, and the units, did 'tend to somewhat fulfill these roles'. But following quickly on the heels of the Camelot era came the turbulent times. The support systems which had built the Units began to collapse: counselors, extra funding, district encouragement to 'do something different', and eventually the energy and commitment of the teachers. Being able to 'do something different' requires extraordinary resources.

In the ripples of policy turbulence, under conditions of stress from the external educational community, people returned to the familiar

membership) they changed the official assignments, but the teachers have crept back, unofficially and quietly.

For the English teachers the importance of the departmental community is described not in technical or in political terms, but in social terms of friendship, of individual rather than categorical identification (this is discussed more fully in Chapter 7). It just happens that most of their friends are other English teachers. When asked about who her colleagues would be, one began 'Peggy, who's one of the other English teachers, and Denise, who's next door who's another English teacher.' The department happens to provide a group of people who share common interests, and with whom these teachers choose to spend their time. They back into the departmental boundaries, almost without noticing them.

The stories these teachers tell provide brief glimpses into how departments have re-emerged as distinct communities within Rancho, and also of the variety of functions that those communities can serve, even within a single school. Departments are, as the English teachers suggest, the site for personal connections which support and sustain individuals. They can be, as the Science teachers demonstrate, a base for political action, for pulling in resources and for pushing agendas. And, as the Math and Science teachers attest, they provide a mechanism for getting desired work accomplished — and an arena for having it valued — with colleagues who understand the subject-specific nature of their work. Departments provide a 'comfort zone' within the school, where friendships, interests, and assumptions are shared.

Departments also represent institutionalized boundaries, familiar to the teachers within them and linking them to distant colleagues in the wider community of the subject area. These external pressures also contribute to the strength and resilience of these boundaries. Echoing the progressive reformers of many years ago, for example, these teachers point to the potent press of college entry requirements and expectations. Others identify the state frameworks, standardized tests, professional associations and conferences — all of which are based on an assumed subject organization of curriculum, teachers, and schools. All in all, they suggest that the push 'from outside' was indeed, as the English teacher put it, 'too much to take on'.

Despite deliberate and careful attempts to dismantle them, despite alternative structures to deal with size and space, the departmental boundaries were reenforced by both the external push and the internal pull. As the Rancho case illustrates, academic departments remain a likely, and resilient, site for clearly defined and potent internal communities to form within the school, and a resistant barrier to school-wide community.

Drawing Boundaries: Communication Cliques

Departments are not the only subgroups of importance within these schools, but they are a likely locus for important subgroups, particularly in terms of teachers sharing talk about teaching. From the stories of teachers in these schools, it is also apparent that the strength of these boundaries around social interactions varies. Oak Valley, where a teacher mistook me for a faculty member, is more departmentalized in this sense than Highlander, where teachers say they know each other by sight, if not by name. Rancho's Science department, whose teachers have 'isolated themselves' in their department space, is more bounded than its English department, whose teachers at least go to the Unit office even if they bring each other along. The stories illustrate both the overall strength of these boundaries and the local variations. But stories are limited in how well they can 'illustrate' the relative strength of these boundaries.

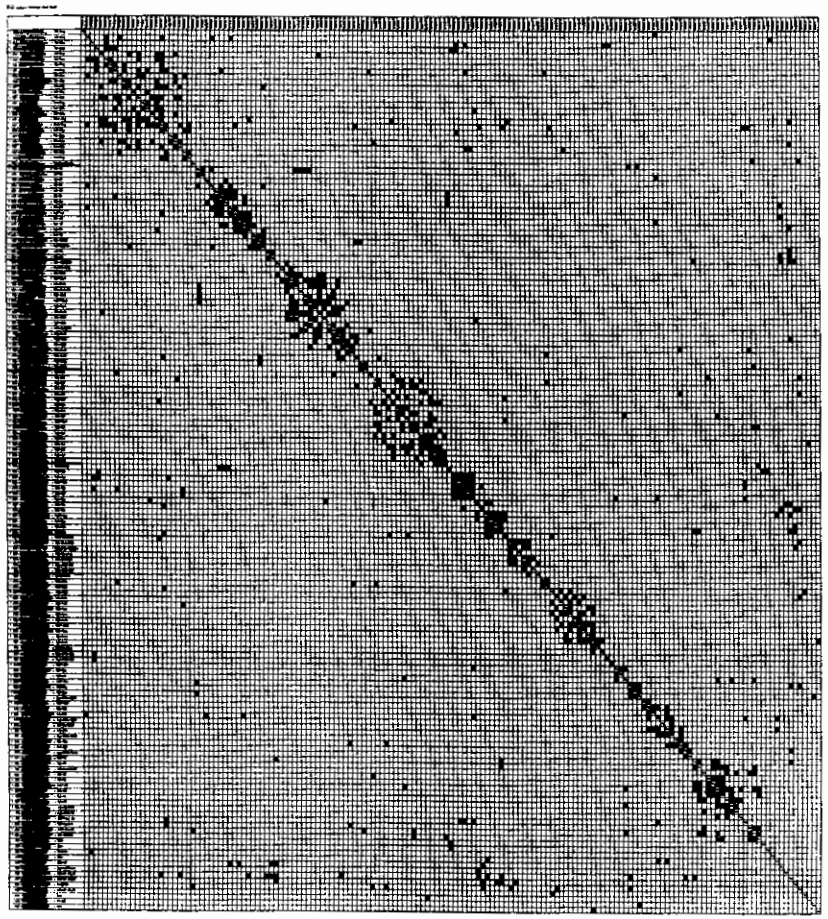
An alternative way of viewing departmental boundaries is through network analyses, which translate survey responses into graphic images. Such a strategy provides a means of mapping out communication patterns among groups of people, and a device for tracking informal information channels. Researchers ask subjects for the names of those people with whom they talk, which are then 'reordered into cliques' by complex computerized algorithms (Rogers and Kincaid, 1981, p. 171). Patterns of communication proximity and density among respondents emerge out of the data, and are arrayed and displayed graphically, allowing analysts to identify cliques and their characteristics. One of the Center researchers has developed that strategy for use in analyzing communication patterns among school staff (Eaton, 1991).[2]

In the graphs shown in Figures 4.1–4.3 part of that process has been used to look specifically at departments as communication cliques. Instead of allowing patterns to 'emerge' out of the data, respondents were arrayed by department, before the analysis, on the horizontal and vertical axes of the graphs. The data then provide an opportunity to test the hypothesis that communication patterns of a school are organized by departmental boundaries.

In this graphic analysis, if the person named is within the same department, the corresponding square on the graph will fall close to the diagonal line. Squares farther from the diagonal indicate distance from the department. If the departments within a school restrict conversation to within their boundaries, the graph will show a series of clustered responses, grouped within square formations along the diagonal line.

That pattern can be seen clearly in the Oak Valley graph (Figure 4.1). All along the diagonal, departmental, line dense clusters of

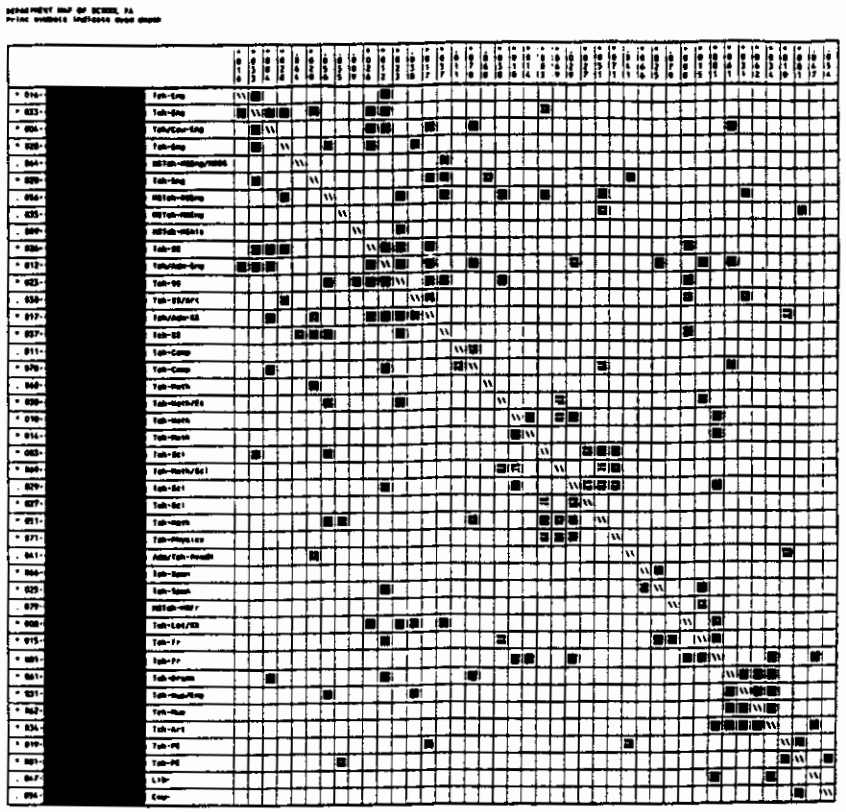
Figure 4.1 Network Analysis of Oak Valley



interactions occur. Away from the department there is little connection. Teachers seldom named, or were named by, people outside of their departments. Oak Valley is depicted as a highly departmentalized school.

For contrast, Figure 4.2 shows the pattern, or lack of pattern, when the departmental organization is imposed on the communication networks of one of the smaller CRC schools, where it does not fit. Most darkened squares do not fall close to the diagonal, suggesting that the key characteristic by which teachers choose their partners for talk about teaching is something other than departmental affiliation. This is the pattern of a non-departmentalized school.

Figure 4.2 Network Analysis of Non-departmentalized School

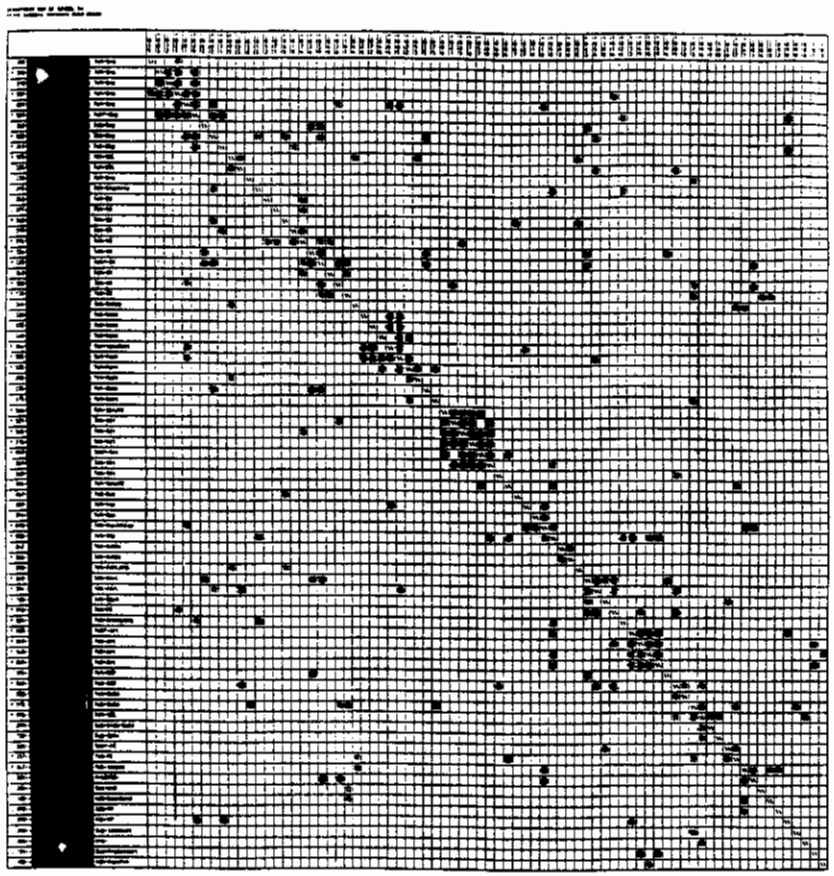


Rancho appears in Figure 4.3. The departmental boundaries here are apparently less strong than they are at Oak Valley, for a number of identified links lie outside the departments. But across the school, far more of the choices lie within the department than outside of it. In both of the schools within this study departments clearly represent substantial barriers to school-wide interactions. Data from Highlander are not available for this analysis.

The strength of department boundaries is to some degree a school characteristic: Oak Valley, with its larger size, detached buildings, and formal departmental structure produces boundaries which are stronger than Rancho's. Both of those schools contrast sharply with the smaller school, where departments are apparently too weak to contain or constrain conversations at all.

The network analyses also illustrate teachers' observations about important within-school variation. Departmental boundaries are not

Figure 4.3 Network Analysis of Rancho



uniformly strong; they do not take the same form, or serve the same ends. This is particularly evident at Rancho, where the graph shows distinct differences in the patterns of different departments in the same school, under the same organizational conditions. Science, in the middle of the graph, is intensely interconnected: almost every member talks to every other member, and almost no one talks to anyone from outside. One teacher's reference to the 'stronghold' is apt; this department clearly has a strong hold on the communication networks of its members. In the English department, in the top left corner, every member is included within the cluster, but some also have external partners they named. In Math there is a dense subgroup within the subgroup — but some department members do not belong to the Math cluster at all.

Conclusion

Carved deeply into the educational history, organizational structure, and even the architectural layout of high schools, departmental divisions have become potent barriers to school-wide communication and community. In schools so large that teachers cannot even know all their colleagues by sight, let alone by name, the department becomes a manageable, and meaningful, 'web of interrelationships' where, as Waller pointed out, so many 'important things' occur. The stories these teachers tell provide testimony to the strength of these boundaries and to their resilience, and suggest the variety of functions, and kinds of interrelationships that those communities can serve, even within a single school.

What kinds of departmental interactions can produce such internal variations? How does it happen that Rancho's Science teachers, within their department, find such a strong and collective voice? Why does the Math department's collective signify, instead, 'one less voice' fighting for resources? This chapter, with its focus on the strength of department boundaries and the barriers they represent to school-wide communication and interaction, looked at the edges of departments. It provided only quick glimpses of their internal workings. The next chapter will look more closely at the people who inhabit these bounded territories, and at the kinds of social interactions which go on inside them.

Notes

1 The figures for years in teaching overestimate the number of years together, since not all years were at the same school. But the figures for years at the school (15.7 at Highlander, 11.4 at Rancho, and 10.78 at Oak Valley) underestimate them, since many teachers trace their relationships back to shared experience in other schools.

2 Through the survey, all staff in each school were asked with whom they talk about teaching, and were given five lines to fill in names. Those names were then linked to the identification codes, and the background information, of each person in the database. In this instance, only department membership was considered relevant background.