

## CHAPTER 5

### DESIGN PATTERNS FOR AMERICAN SCHOOLS: RESPONDING TO THE REFORM MOVEMENT<sup>19</sup>

This chapter explores the often elusive yet critically important relationship between architectural design and educational reform. A review of the major ideas in the educational reform literature--especially those which seem to have architectural implications--has led to a set of design *patterns* which we would argue respond to the reform movement.

#### Case Study: Five Educational Reform-Based Patterns

The process of generating these patterns has been discussed in Chapter 4. We will now focus on implications of the educational reform movement by presenting five sample design patterns which respond primarily to current American educational reform ideas: School as a Community Center / Necklace of Community Activities; Team Suites / Clusters of Classrooms; Supervisable Circulation Paths; Portfolio Process Studio; and Cluster of Teacher Offices.

#### School as a Community Center / Necklace of Community Activities

Educational reform commentators have suggested that one of the important new educational directions for the 21st century school is integration of the school with other community functions, the development of a community center as part of the normal operations of the school, and making the school a hub for community activities. This pattern is in response to a wish for a broadening and deepening sense of community--to the school as a life-long learning community. As an example, in *Smart Schools, Smart Kids*, Ted Fiske discussed a number of innovative learning communities, centers for child advocacy, and some 70 community organizations dealing with health, social services, recreation, and housing. The *American School Board Journal* of May 1990 reported that the construction of community recreation centers as part of schools has contributed to community support for public education among a growing number of community residents. Centers are scheduled so everyone in the community can use them, adult education programs, senior citizen groups, etc. New schools now include child care centers, the best examples being in Ontario, job training educational programs, youth programs, programs for parents and families, social services, and facilities for community and town hall meetings.

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<sup>19</sup> An earlier version of this chapter was given as part of the introduction to a keynote talk at the Wing-spread/Prairie School National Conference on Architecture and Education, Racine, Wisconsin, June 1992. It will be published in A. Meek (Ed.), *Architecture and Learning* (Moore & Lackney, in press). Our thanks to Anne Meek for inviting the chapter, and to Ted Fiske for suggesting the idea of plumbing the educational reform literature for ideas which could be translated into patterns. His most recent book, *Smart Schools, Smart Kids*, has been most instructive in this regard.

Architecturally, the school may either wrap around the community functions as around a "town square," or the community functions may be a "necklace" around the school. An example of the former is the Lago Lindo School in Edmonton (*Canadian Architect*, 1991), in which a simple urban piazza connects the school to a future community building, creating a focal point for the community. The piazza, a major gathering spot for the school, has also become a focal point for the community. It is only a short step from the school as a community hub to using the school year round, both for primary education and for community functions. An example of the latter is the Desert View Elementary School (reported in *Architecture*, 1989) where a multipurpose pavilion and cafeteria is shared by the community and is oriented towards a public entry plaza. In both cases, the school/community relationship encourages the use of the school year round, both for primary education and for community functions.

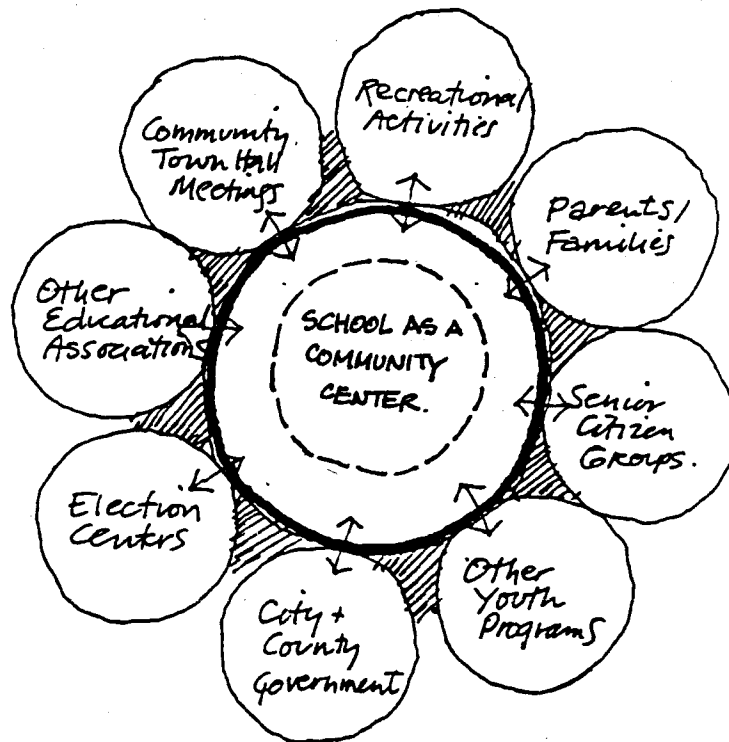


Figure 5.1. School as a community center / necklace of community activities.

### Team Suites / Clusters of Classrooms

A common educational reform trend is the classroom suite, sometimes called the "Self-Contained Classroom Community" or "The Pod School." The philosophy behind this reform idea and design prototype is that teachers and students together constitute a small community. Variations on this theme include cooperative learning, new versions of team teaching, Ted Sizer's notion of teachers as team coaches, and the school as a mirror of the emerging workplace. In one interpretation of this philosophy, the Koln-Holweide model, teachers are divided into small, relatively autonomous teams (6 to 8 teachers), with each team being responsible for one group of students. The teams stay with their students from the fifth grade until the tenth grade.

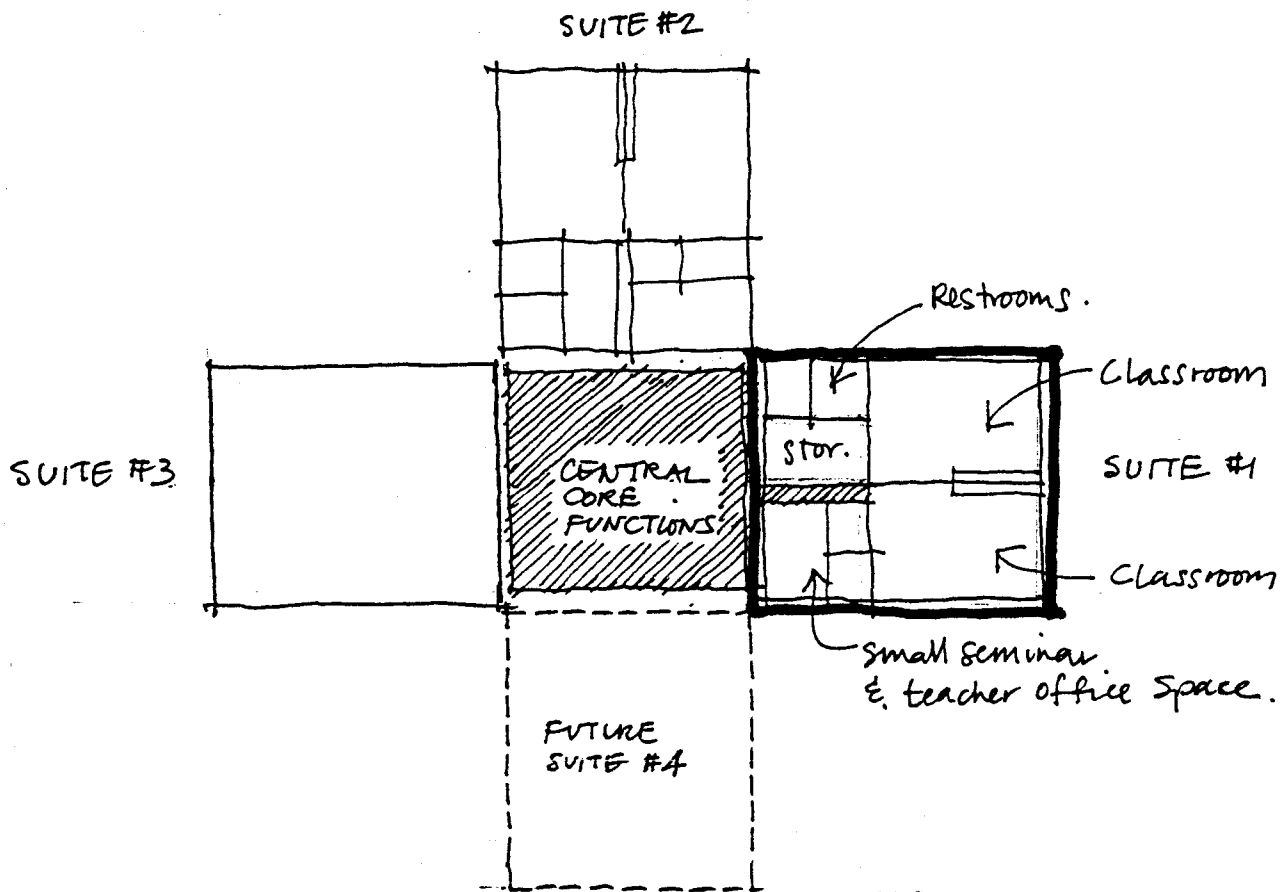


Figure 5.2. Team suites / clusters of classrooms.

The architectural response is to create a series of small suites of classrooms and support facilities around the central core functions. Among the support facilities may be lounges, informal learning spaces, a small computer hub, office space for teachers, lockers, private bathrooms, display cases and small seminar rooms. Layouts can accommodate different teams and community philosophies: classrooms can vary according to size and openness, the relationship of the teachers' offices to classroom space can vary, etc.

Strickland & Carson Associates' design for School Site Number 1 in the Bronx, reported in *New Schools for New York* in the Winter 1990 *Teachers College Record*, included suites for an inner-city school each with classrooms, lounge space, office space for teachers, lockers, private bathrooms, window seats, terraces, hallway display cases, and smaller seminar rooms. The philosophy behind the design prototype, and this pattern, is that teachers and students together constitute a small community, or a "family" in a "house."

### **Supervisable Circulation Paths**

Ambiguous circulation patterns impede children's use of schools and create unnecessary chaos and disorganization. The central educational issue with regard to circulation is "substance" time versus "non-substance," "transitional," or "preparatory" time. Studies by Paul Gump in 1975 found that more non-substance time is spent by children in open-plan schools than in closed-plan schools, with much of this being transit time between activities. Various design researchers (e.g., Fred Osmon, Anne Taylor, and our own work) have suggested that circulation patterns surrounding activities may encourage children to look around and see what is available, that fluid traffic patterns provide a means for better communication. Studies conducted in our own labs have found more teacher-teacher communication and a wider variety of interaction among students and between students and learning materials in early childhood education centers when circulation was clear and not disruptive of activities.

Supervisability, however, is a major problem for teachers and administrators in Milwaukee's inner city schools, as it is in most other major city school systems, and must be addressed in some fashion. There is a desire by educators to provide circulation corridors which provide passing opportunities for learning through the use of activity pockets for free-standing display cases, wall-mounted tack-boards, and pockets off the main corridor which contain vision glass into a specialty classroom. Corridors have been traditionally a convenient location for lockers. Architects often recess classroom entrances and stagger corridors to cut down on the excessive corridor lengths. However, in certain settings, the need for supervision and frequent occurrence of vandalism override the desire for circulation which responds solely to educational or functional needs. Children, in these circumstances, can hide in various nooks and crannies located off the corridor out of the sight of teachers or safety supervisors.

When possible, therefore, the circulation path should be cleared of visually obstructing objects to facilitate effective supervision. Clear circulation takes on a different meaning when supervisability is taken into consideration in the planning of a facility.

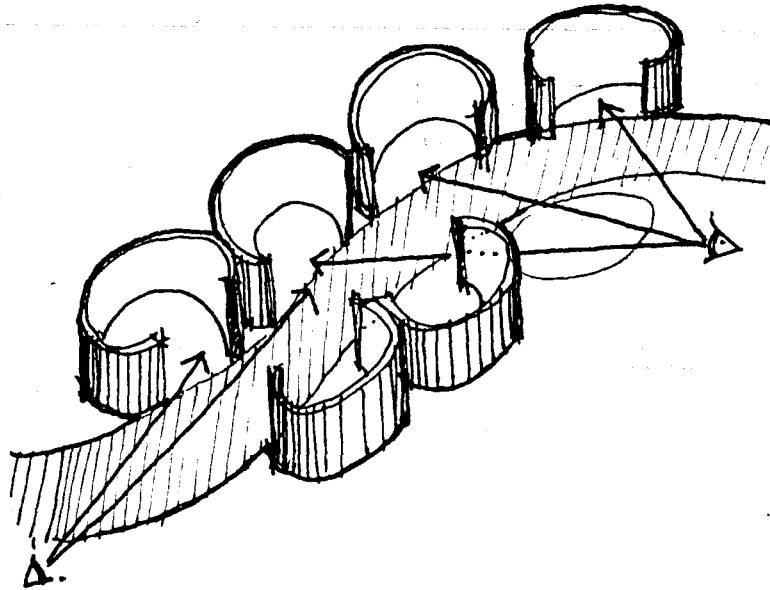


Figure 5.3. Supervisable circulation paths.

### **Portfolio Process Studio**

As schools move beyond traditional assessment strategies and standardized achievement tests, alternative assessment models such as "portfolios" (advocated by such reformers as Grant Wiggins and Holly Houston of the Center on Learning, Assessment, and School Structure, and Ted Sizer of the Coalition for Essential Schools) may become commonplace. Portfolios, it is argued, are means to more authentic testing of process as well as final product of student work, of what a student has actually learned, and a test more aligned with real-world situations.

The design implications for alternative forms of assessment, such as portfolios, has not been sufficiently addressed. The architectural design pattern which arises out of the notion of portfolio is the need to provide appropriate space for working on, storing, and exhibiting student portfolios. This space must accommodate a wide range of activities, including but not limited to A/V studio productions, dance and other similar types of live performances, individual project work space, large open project tables, a gallery to display work, and staging areas.

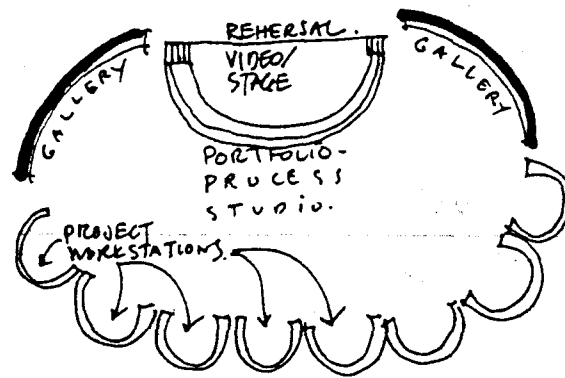


Figure 5.4. Portfolio process studio.

### Cluster of Teacher Offices

The need for a new professionalism among teachers has been recognized by educational reformers. The Carnegie Foundation for the Advancement of Teaching (1990) found that the nation's teachers "see themselves less involved in key school decisions [and] find working conditions unsatisfactory." Ernest Boyer, president of the foundation concluded that "improved working conditions are essential if we hope to attract and hold outstanding teachers. They must be regarded as professionals, treated as professionals, and consider themselves to be professionals. Unless we create an environment in the schools...that sustains such an attitude, we cannot expect improvements to occur." If teachers are to be treated as professionals sharing decision making, then quality, private working space (which includes telephones, fax machines, computer terminals, etc.) should be provided.

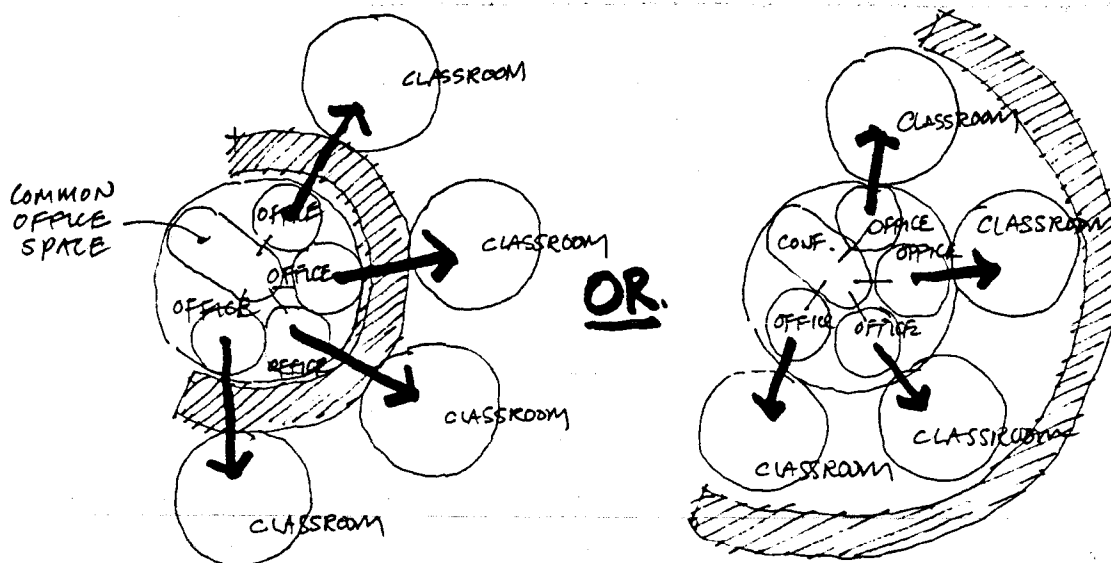


Figure 5.5. Cluster of teacher offices

### **The Development of Patterns as a Collaborative Process**

As will be discussed further in Chapter 8, we believe that the development and use of design patterns be a collaborative dialogue between researchers and practitioners from both the architectural and educational professions. In addition, there is a need for a process view of the implementation of these reform ideas, both educationally and architecturally. For instance, the design patterns presented here represent a fraction of the number of patterns which may have arisen from the work of many architects and educational researchers over a span of 30 years which have not been identified. As educational philosophies continue change into the 21st century, many new patterns will arise which have not been suggested by either empirical, educational or architectural literatures.

The implications of this process view further suggest that new design patterns will emerge from the feedback of students, teachers, and administrators in school facilities as they struggle to implement these and other reform ideas. Including students and teachers in the process of identifying design patterns which work will not only increase their environmental awareness of the possible use and management of classroom space, but may further support the spatial and environmental implications of educational reform ideas at a grassroots level.

The critical importance of the physical environment of the school in supporting educational program reforms should not be ignored. The success of the educational reforms of the 1990s will depend, in part, on the support these reform programs receive from the physical setting in which they are placed.

