

CHAPTER 7

PROTOTYPE DESIGNS FOR THE NEW AMERICAN SCHOOLHOUSE OF THE 21ST CENTURY²⁵

Conducting empirical research. Review and interpretation of research. Translation into design patterns. Facility planning and programming. These are the building blocks of a research-based approach to educational facility design. But what might the "new American schoolhouse of the 21st century" look like?

We were invited and commissioned by the editors of *Agenda*, a Scholastic publication, to develop such a prototypical design, including annotated plans for a school of the future, essentially giving form to the issues raised in the above chapters and in discussions of educational reform. The core of the design is an attempt to respond to education restructuring by asking the fundamental question, what does it mean architecturally?

In the pages that follow is a conceptual design--not a blueprint--not to be followed slavishly and certainly not to be copied--but an idea of how the above patterns come together to create a building for restructured education based on both the EB research literature and the reform movement, and may begin to suggest some new ways of thinking about educational facilities. The conceptual design proceeds from small scale to larger urban scale. An attempt is made for each section to build on the previous section as the design unfolds.

Team Suite Plan

The first part of the prototype is what we call the "Team Suite Plan." It is based on the central notion of a cluster of classrooms and grew out of integrating eleven of the patterns, namely:

- Team Suites / Clusters of Classrooms. The classroom suite, sometimes called the "self-contained classroom community" or "the pod school." A series of small suites of interconnecting, inter-communicating classrooms and support facilities around central core functions.
- Small Classrooms. Classrooms under 20 children.
- Flexible/Adaptable Learning Facility. Flexible spaces, flexible classrooms of all types including project rooms and the "portfolio process studio."

²⁵ An earlier version of this chapter was invited and commissioned by *Agenda*, published by Scholastic Press, Inc. The magazine, however, ceased publication before the article could be published.

- **Table Groups.** Multi-age grouping, children working in cooperative groups, with the teacher-as-coach and student-as-worker, students working in cooperative table groups.
- **Nested Classroom Groupings.** Support for individual study and activity, for table groups, and for large-group instruction, all in the same "smart classroom."
- **Modified Open Space.** A type of space division that resolves the dilemma between open and closed plan types and allows the best of both extremes while minimizing the problems of both--a mixture of several open areas with smaller, enclosed spaces.
- **Variety of Learning Spaces.** The creation of settings appropriate for ("synomorphic" with) learning activity structures--a variety of learning/teaching areas throughout a classroom and/or school--a prototypical elementary classroom may need three primary teaching areas: a flexible traditional main area, a "wet" area for occasional art or science, and a cozy corner, sometimes a loft or window seat area for more quiet study or one-on-one teaching--may need also a number of additional activity areas for group reading, "seatwork," one-way, two-way, and mediated presentations.
- **Well-Defined Activity Pockets.** Architecturally well-defined learning/activity settings--sound absorbing partitions, small areas for privacy, lecture pits, lofts, well-articulated activity nooks, etc.
- **Portfolio Process Studio.** The provision of appropriate space for working on portfolios, and exhibiting them, including but not limited to A/V studio, dance and performance studio, individual project work space, large open project tables, a gallery to display work, and a staging area.
- **Cluster of Teacher Offices.** Quality, private working space with telephones, fax machines, computer terminals, etc., all networked throughout the school and maybe the district--these offices clustered and sharing a common seminar space, meeting room, staff back-stage.
- **User-Friendly/Child-Centered Aesthetics and Scale.** The whole designed from the elementary child's point of view and size.

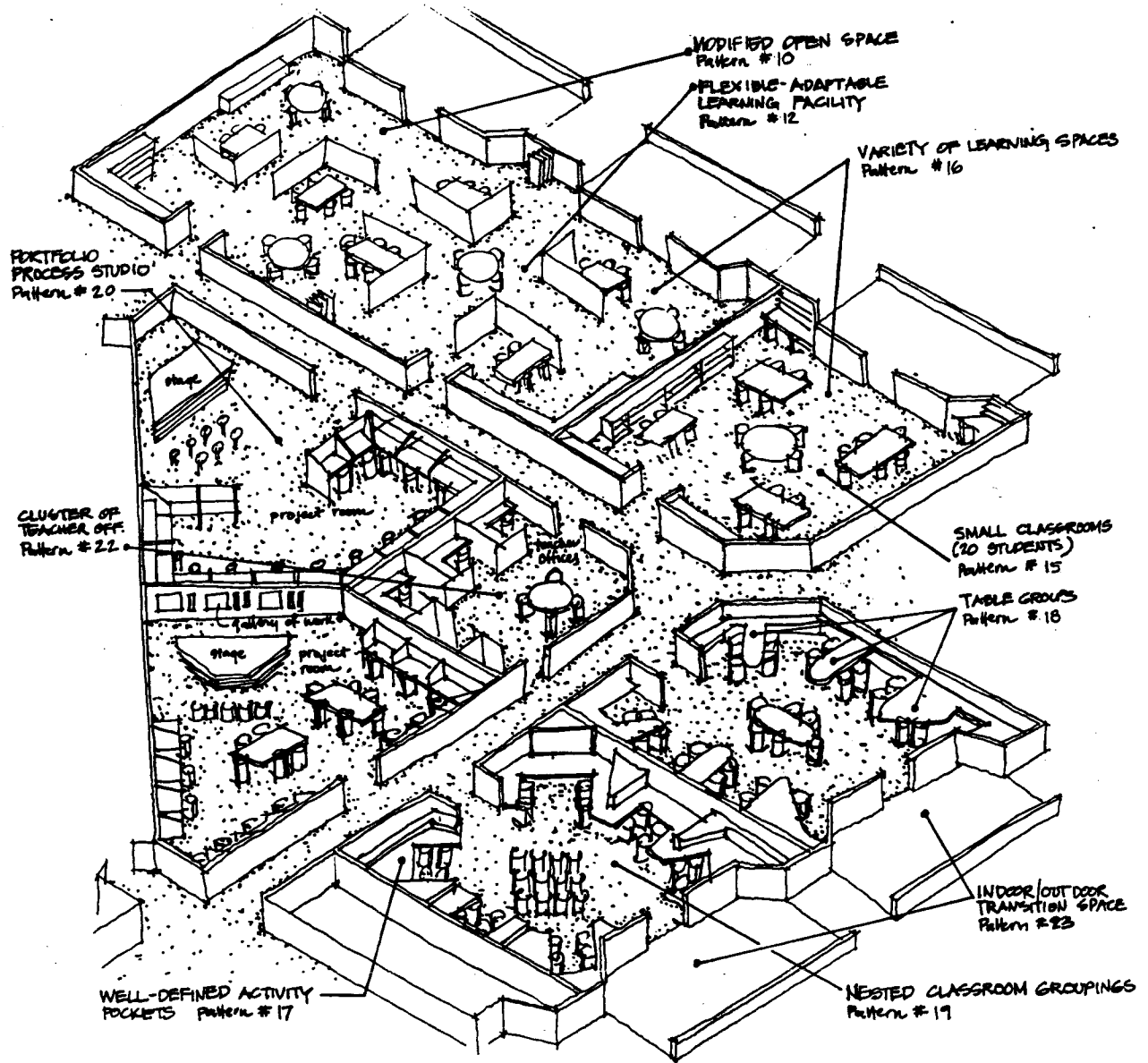


Figure 7.1. Prototype design for the new schoolhouse: Team suite / cluster of classrooms.

House Plan

The building block of the team suite/cluster of classrooms combines with other clusters to form what we call the "House Plan." A *house* is made up of two or more clusters, serving, ideally, 300 to 360 children, as shown in the accompanying drawing. Its design is further generated by an additional six patterns:

- **Campus-Plan Concept/Schools within Schools.** The village or campus-plan concept--a decentralized building plan--the idea of separated yet related schools-within-a-school, separated yet related administratively and architecturally, a series of academic wings or even separate "houses" (K-2, 3-5) for approximately 210 to 360 students each, each with its own commons and entrance, the resulting design successfully breaking down the scale of the building.
- **Home as a Template for School.** The home, rather than office or other institutional buildings, as the model or image for the school.
- **Administration in the Mainstream.** Administration to be in the mainstream of the action, not isolated or removed in an "administrative wing."
- **Great Spaces.** The possibility of centering the house on a great space, a central atrium or other common meeting place and symbolic heart to the house.
- **Supervisable Circulation Paths.** Clear circulation paths that connect activities and classrooms without disturbing them, and that are easily supervisable, with no hidden corners or out-of-the-way spaces.
- **Indoor-Outdoor Transition Spaces.** Transitional spaces between indoors and out--used as teaching/learning spaces--elements of the building can reach out into outdoor spaces and create an additional space for class activities, a gently pitched roof with a wide "eyebrow" for undercover teaching in slightly inclement weather, a timber board walk beneath a fabric canopy to link classroom clusters and double as an external teaching area, shaded loggias formed at each end of the building which can be used as outdoor project spaces, etc.

Campus Plan

Finally, in the third step, the houses become combined into an overall "Campus Plan," influenced by another seven critical patterns:

- **And the Winning School is ... Smaller.** Downsizing elementary schools to 500 to 600 pupils per school [our drawings show two schools for ca. 720 students].

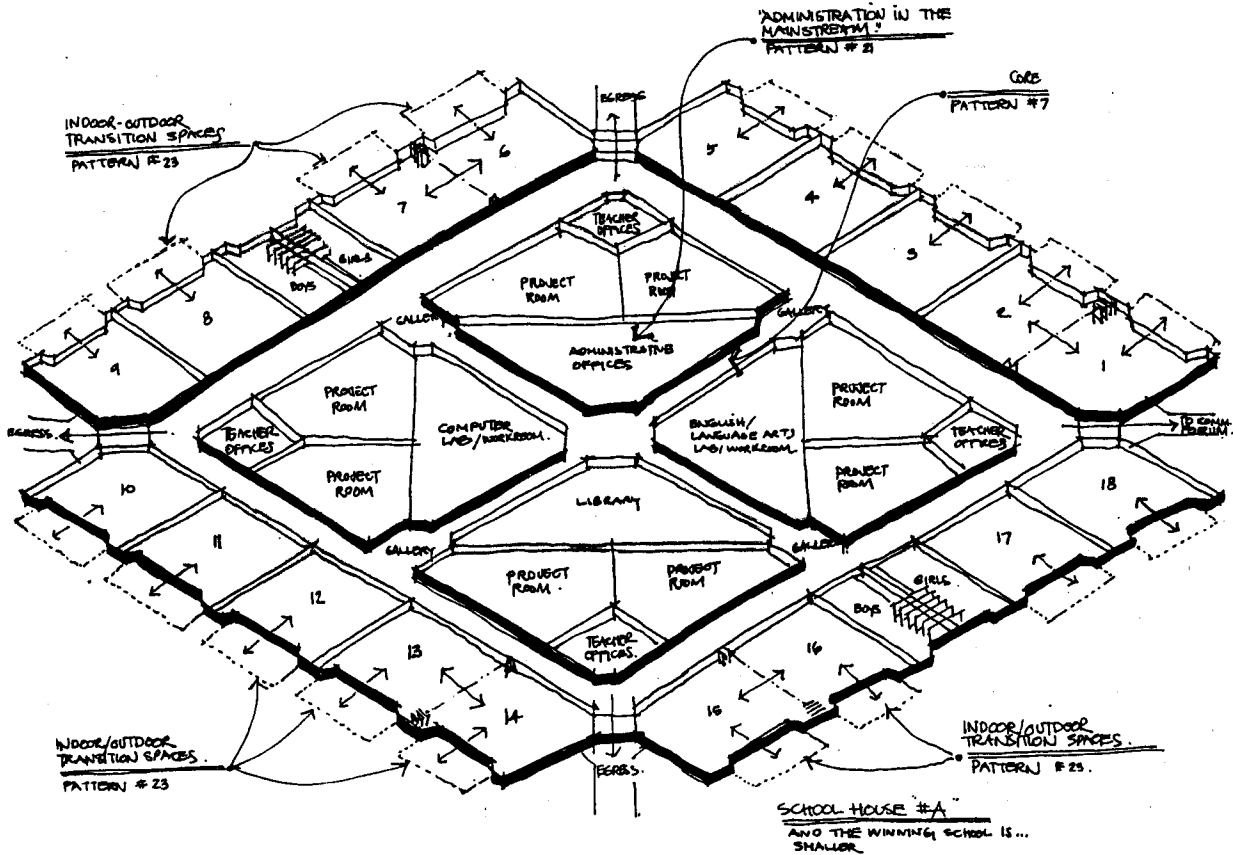


Figure 7.2. Prototype design for the new schoolhouse: House plan.

- **Safe Location.** Location away from noxious elements, from dangerous areas, from high traffic streets, or at least well buffered from all of these.
- **School as a Community Center/Necklace of Community Activities.** Integration of the school with other community functions, the development of a community center as part of the normal operations of the school, and the school as a community hub--the creation of a "learning community" including but not limited to housing child care centers, continuing and job-training educational programs, youth programs, programs for parents and families, administration offices, social services, and facilities for community and town hall meetings--architecturally, the school may wrap around the community functions, as around a "town square," or the community functions can be a necklace around the school.

- **Building Core/Community Forum.** A shared community forum as the building core—including but not limited to such common-use spaces as the library, multi-purpose rooms, gallery—more fundamentally, a community forum for school-based management, for shared decision making, and other community functions (town hall meetings, etc.).
- **Contextual Compatibility.** Weaving the school visually into the community, using the local vernacular as the basis for visual and aesthetic design.
- **Design Diversity.** The creation of a diversity of design within the context of compatibility, e.g., different houses can be articulated architecturally so they are seen as being different houses, yet they remain as variations on a larger theme of the school as a whole, and remain contextually compatible with the surrounding community.
- **Compact Building Form.** Elimination of extraneous perturbations, bringing the building envelope into a compact form, in terms of plan and overall building massing.

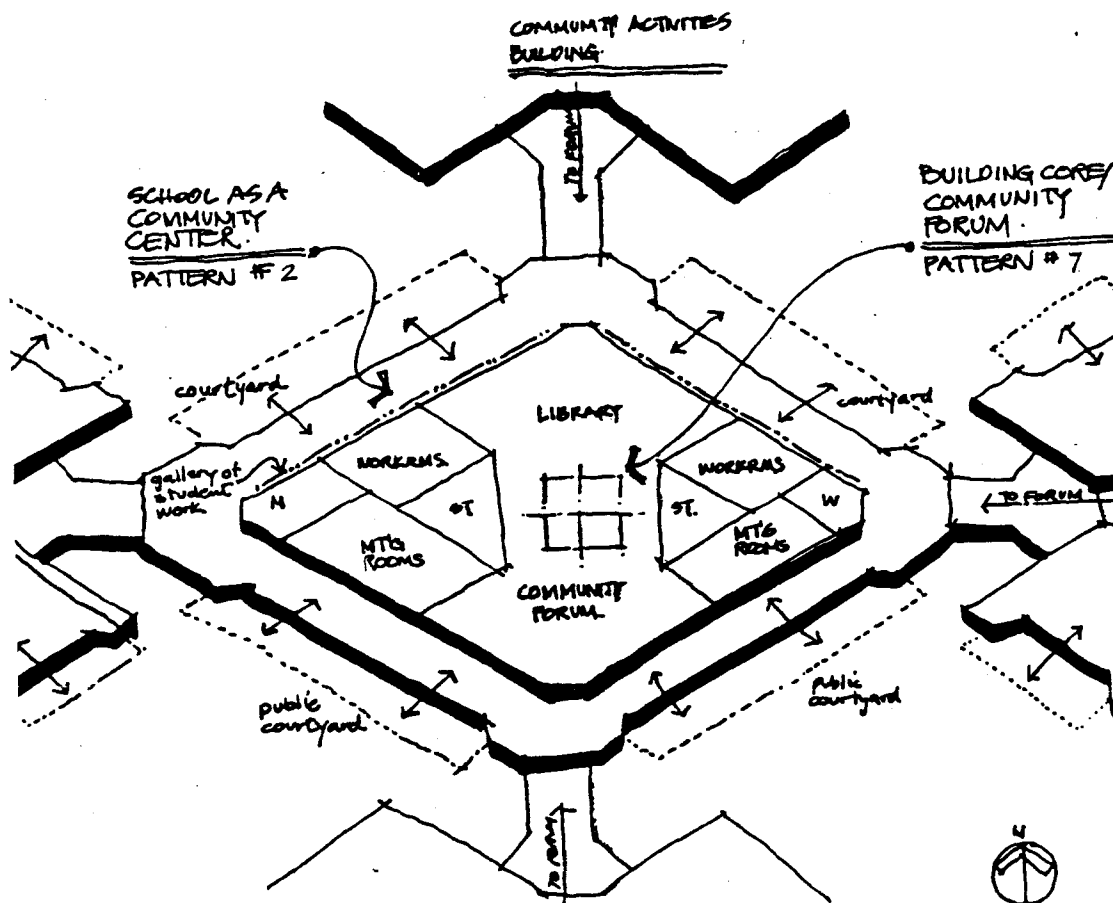


Figure 7.3. Community affairs building as the heart of the prototypical design.

There are two major variations on the campus plan. Alternative 1--strongly influenced by Campus-Plan Concept/Schools within Schools and by School as a Community Center/Necklace of Community Activities--shows a decentralized plan, suitable for a suburban or rural site. Alternative 2--more influenced by Compact Building Form--shows a stacked plan, suitable for an urban site.

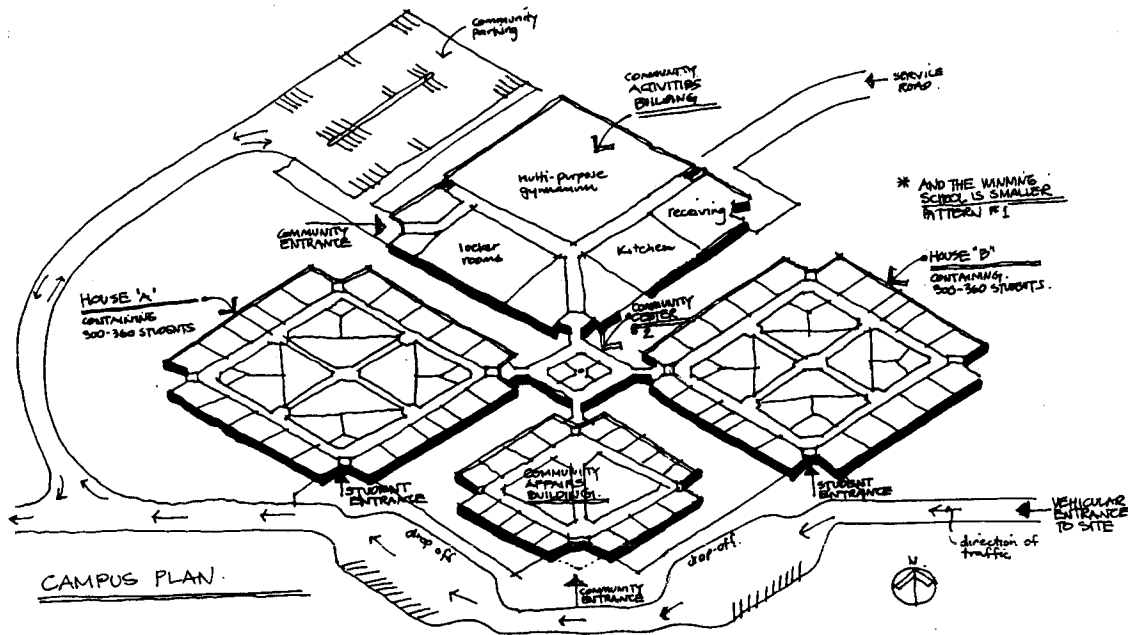


Figure 7.4. Campus plan--Alternative 1: Decentralized plan.

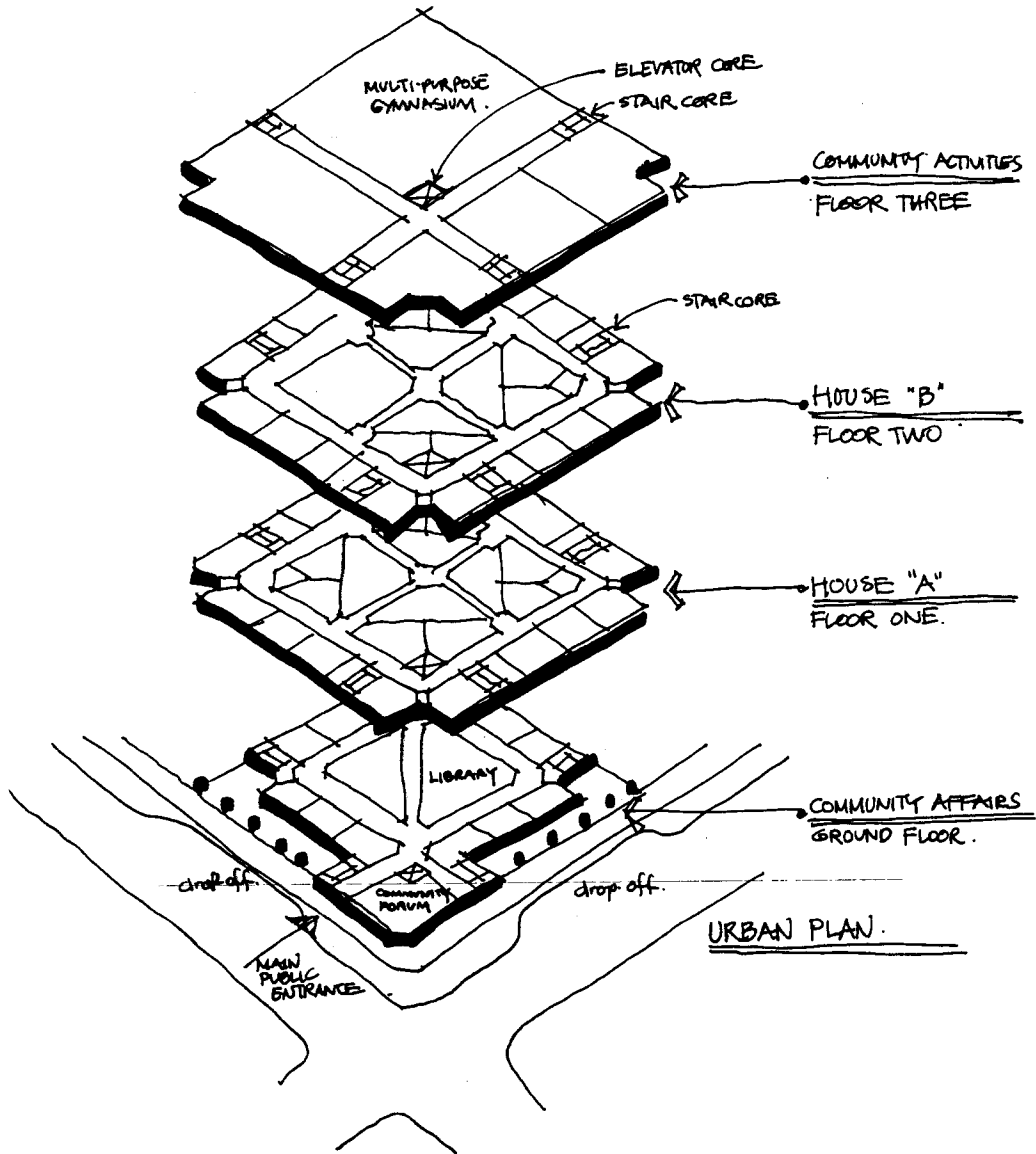


Figure 7.5. Campus plan--Alternative 2: Stacked plan.