

# Living Evaluations for Residential Housing

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*Valid user evaluation of facilities must be dynamic, for time changes both the physical structure and the characteristics of its users. Several post-occupancy evaluations at Hampshire College are reported, together with summary guidelines for the design process. A continuous monitoring system, such as the Cycles Surveys, includes a broad range of social and academic variables, and permits data comparisons with other institutions. Such a system encourages proactive evaluations, seeking emerging trends before they are manifested as major, uncontrollable problems.*

User evaluation of facilities is a chancy affair. It is difficult to assess client needs and wants, user satisfactions and legitimate complaints. Time further complicates the interactions between physical structure, users, and evaluations. Buildings may wear and deteriorate, and spaces may also be personalized and improved. User characteristics may change: either the same users grow older or new users from a different subculture may replace older tenants. The general social rate of change appears fast; it is even more rapid

within the college environment, where four years is a full generation.

The college residence hall is a complex setting to evaluate. While the physical design influences user behavior, so does the social environment (cf. DeCoster & Mable, 1974; Falk, 1975; Feldman & Newcomb, 1970; Newman, 1973; Sanford, 1962; Zeisel, 1975). Furthermore, social conditions can influence the physical structure as well as user behavior. A group can turn to civic pride or to vandalism; a group discussion can be perceived as noise or as an opportunity for social interaction and intellectual stimulation.

To adequately attack these problems, a dynamic approach to evaluation is needed. This paper reports the development and some uses of an evaluation framework — the Cycles Surveys — as used at a residential college.

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### The Setting

Hampshire College was designed as an experimenting college, and matriculated its first 250 students in September 1970 (Patterson & Longworth, 1966). Five new residences were opened during the college's first four years. By staging the expansion of the student body, the college was able to utilize its initial experience in designing structures and programs during following years. Hampshire College was designed to provide an integrated learning environment with a wide variety of options for its 1200 students. Its design of residences evidenced this central feature of diversity.

Each of the college's five residence halls is architecturally distinct. The first dormitory, Merrill House, was similar to other brick college dormitories except for its higher proportion of single rather than double rooms and for its square rather than linear corridors. The second dormitory, Dakin House, was a four-story brick structure; its corridors zig-zagged and connected through dual-entry bathrooms. Merrill and Dakin were referred to as the "dorms," in contrast to the "mods," the other three residences of modular apartments. (See page 8.)

Greenwich House, the third residences built, were prefabricated wooden two-story modular structures called "donuts" because of their circular shape and central common social space. Greenwich House had five units, each with eight wedge-shaped apartments and approximately 40 students. (See page 8.) Enfield House also consisted of wooden modular apartments, but were rectangular and arranged in clusters; apartments had four, five, or six bedrooms. Prescott House was a metal and brick complex with apartments of 4 to 14 students. (See page 10.)

Hampshire's housing was designed using both consumer and user feedback; that is, soliciting evaluations from students at other campuses and evaluations from Hampshire students who would be users of the structures they evaluated (Becker, 1977). Even with such extensive planning, later studies found areas of needed improvement.

### A Longitudinal Evaluation Framework

Architects and designers combine their wisdom with project specifications and constraints to create a structure for people. However, after the actual residents move in, a building develops its own life. To keep this physical-social entity functioning well, continual assessment is needed. Many research or evaluation questions cannot be adequately answered by one-shot studies. To account for historical changes in the environment, to recognize changes within the college, and to begin to unravel causality, a time-series research design is necessary (Campbell & Stanley, 1963). Colleges are continually making changes and continually having changes made upon them. Some of these changes are planned while others are unplanned. Yet for any change it is often important to know whether to facilitate, impede, or reverse it. An ongoing set of key monitoring variables can help evaluate the many administrative experiments occurring in colleges (Astin, 1971; Campbell, 1967).

The basic idea of the Cycles Surveys is very simple (Kegan, 1978a). A brief survey is designed to include questions that will monitor key aspects of the quality of student life and the effectiveness of the college. The survey is kept brief enough so that it can be used repeatedly without undue burden to each sample's participating students. The format of most questions is standardized to permit ready addition of new questions for specific topical inquiries and to facilitate cross-survey comparisons. A random sample of students is invited to participate in the survey; in some cases a stratified random sample may be more appropriate. Results of each Cycles Survey are fed back to the college community, often via the campus newspaper. After a few administrations of the Cycles Surveys, time-series graphs are prepared for each key monitoring variable. These graphs of student survey data are augmented with graphs of administratively generated data, such as housing damage costs, attrition, and admissions yields. Together these time-series graphs are termed Soundings charts. Given these initial data, campus decision-making groups can set goals against

which the Cycles data may be compared.

The Cycles Surveys are explicitly designed to include a wide variety of issues. Academic, social, and housing questions are all included, for each is important in assessing the quality of campus life. Moreover, such a multi-focus has an explicit political purpose (Kegan, 1980; Wildavsky, 1972). To properly use an evaluation to effect change requires resources, which are usually limited and often competitively guarded within a college. By combining academic and residence hall issues within a single evaluation instrument, the entire evaluation process can achieve increased and mutual legitimacy from the several special interest sectors at a college.

While the exact content of a Cycles Survey will vary at each college, the Cycles Survey and supplemental housing questions developed at Hampshire College and presented here focus on uses that will be of interest to planners, designers, and residence hall staff.

### **Post-Occupancy Evaluations**

#### *Lounges*

An early evaluation found problems with the dorm lounges. Merrill residents reported not using their lounges because of dirt, mess, and location. Specific design problems were fire doors that blocked casual visual inspection and lounges that were on no natural traffic pattern. Dakin lounges were on major traffic routes and were open to casual visual inspection. However, dirt, mess, and lack of furnishing were reported reasons for not using the lounges in Dakin.

A small project group was formed consisting of the Merrill House staff, the Vice President, a physical plant official, the evaluation specialist, and a student research intern who had worked intensively on the housing evaluation. After some discussion an experimental design was developed. A few lounges were modified, and subsequently evaluated (cf. Propst & Propst, 1973).

Some of the experimental designs included: a) locking the lounge door and providing keys only to the hall members; b) building platform--furniture into the lounge; and c) building over-

sized tables and chairs, too large to be removed through the doorway. Where each change was instituted was determined after consultation among the house staff, dorm residents, and physical plant representatives. Each experiment could be considered a mini-pilot project, and was qualitatively evaluated by the house staff.

#### *Large Apartments*

Prescott House had 4,5,8,11 and 14-person apartments. A housing evaluation found small apartment residents (4,5, or 8-person units) compared with large apartment residents were more satisfied with their house experience, had more often furnished their living room with something they owned, spent more than 5 hours a week in their living room, ate together more frequently, and had fewer first year students. To improve the situation for the large apartments, a small double room in the 14-person apartments was changed to a large single, and offered to select student interns and seniors. This decreased the number of people in the largest apartments and added the experience of older students. The loss of residence fee revenue was partly only a paper loss, since the college had excess bed capacity and the small doubles were not desirable. Moreover, poor residence conditions contributed to student dissatisfaction and to attrition, which can be a large hidden cost (Kegan, 1978b).

#### *Special Groups*

Post-occupancy evaluations sometimes focus on averages rather than also considering the variation around those central tendencies. If three-quarters of the dormitory residents report that they are satisfied with their housing experience, administrators may in turn feel satisfied. However, that twenty-five percent dissatisfied should not be discounted as adolescent malcontents but should be considered as potentially having legitimate complaints. Moreover, it is likely that some of the dissatisfied are those more sensitive to quality (cf. Hirschman, 1970).

Initial surveys of the quality of student life found noise in the dorms a major complaint. One

possible answer would have been expensive remodeling to increase soundproofing; the college took another tack. Initially, rooms were assigned to individuals for the next year by lottery. With greater recognition of the noise problem in the dorms, special quiet halls and special loud halls were established. While the average objective noise level in the college may not have decreased, it became more concentrated in the loud halls (students liking records played at high volume) and relatively scarce in the quiet halls.

Special subgroup analyses can also uncover previously unknown problems. Analyses of quality of life issues by class and residence found that upperclass students in the dorms felt more lonely, more isolated, and less energetic than other students; they were less satisfied with their college and housing experience. These students tended to describe themselves as "recluses". Without an active evaluation device such as the Cycles Surveys, the problems of this small, withdrawn minority may often be overlooked. By asking questions to those who tend not to volunteer their opinions, special counseling and activities can be developed.

Special subgroup analyses can also be used to prevent the misallocation of resources to programs an active and organized group claims is desired by a large proportion of students. Despite our democratic heritage, student governance committees are often representative only of those students who actively vote. A college may wish to improve its effectiveness by using representative evaluation surveys to complement the informal information sources of governance officials.

### *Pets and Damage*

Some socially and financially important evaluations are simple matters — if the proper data have been collected. The pet question was one such issue. Hampshire College initially had a relaxed attitude towards pets on campus. Even after the student-faculty Community Council passed regulations restricting pets on campus, enforcement of these regulations was relaxed. A routine analysis of housing damages indicated a doubling

of the cost over the prior year; physical plant personnel attributed the bulk of this increase as due to damage caused by pets (see Table 1). A survey of student opinions and attitudes — a precursor to the Cycles Surveys — found over half the students wanting stricter enforcement of pet regulations and only a tenth of the students wanting greater leniency. A new room damage deposit system was instituted and pet regulations were more strictly enforced. The following year housing damages returned to their earlier, low level.

The "pet question" had previously been an issue with strongly divided student opinion. The above study added useful data, and administrative decisions were made which resolved much of the controversy. While administrators tended to be more concerned with the trend of per student damages doubling from \$5.60 to \$11.30, students seemed to find the equivalence to the loss of financial aid (the equivalent of three average aid packages) more significant.

The data also showed strong differences in damage costs among the houses. The higher costs in Merrill, Dakin, and Prescott partially reflect their smooth interior walls — which showed dirt and often needed annual repainting. In contrast, Greenfield and Enfield had textured wallpaper. However, such physical differences do not totally determine resident behavior. Note that in 1975-76, the Dakin House staff was able to significantly reduce damage costs.

### *Other Studies*

Several other studies have been conducted to help physical and social planners with their task of ongoing design and modification of college residence halls.

Thefts and related security problems were investigated. It was found that students in the modular apartments tended to keep their doors unlocked. An educational campaign to change such practices was monitored by the apartment house staff in collaboration with the Security Department.

Proposals to promote student-faculty interaction included the college's subsidizing faculty

**TABLE 1 — Dollar value per student of damage to residence houses**

Period		Merrill	Dakin	Greenfld	Enfield	Prescott	Total
1972-73	\$	1592	2918	187	618		5315
	@	6.37	9.73	0.94	3.09		5.59
1973-74	\$	3343	4104	2565	735	2804	13551
	@	13.37	13.68	12.82	3.68	11.22	11.29
1974-75	\$	1002	2864	821	307	2872	7866
	@	4.01	9.55	4.11	1.54	11.49	6.55
1975-76	\$	1603	1271	658	545	2838	6915
	@	6.41	4.24	3.29	2.73	11.35	5.76

\$ = Total dollar cost per house.

@ = Per student cost assuming 250 in Merrill, 300 in Dakin, 200 in Greenwich, 200 in Enfield, 250 in Prescott.

Data from Physical Plant log of labor and material charges due to vandalism, damage, or neglect beyond reasonable wear.

housing within the residence halls. Representative surveys found that two-thirds of the students wanted faculty and general administrative staff living in the residence halls. Later evaluative surveys found that faculty/staff members living in the residence halls had little impact except for one place — Greenwich House. At Greenwich, the combination of physical structure, local student subculture, and residence staff philosophy combined to make the loss of student room fees due to faculty housing a valuable educational expenditure. Such was not the case in the other residence halls initially involved in the project.

#### *Design Guidelines*

Consumer and user feedback can inform the design of new structures. However, planners should include a continuous monitoring system, such as the Cycles Surveys and Soundings Indices, within this design process. This will permit management and the ongoing design-process to keep current with the changing character of the facility and its users.

Such a monitoring system should assess general satisfaction with the facility, as well as satisfaction with salient features, reported use of key elements, and significant intervening process variables. Precoded quantitative questions should

be augmented with open-ended qualitative questions. Finally, the analysis of such data should be proactive, seeking emerging trends before they are manifested as major, uncontrollable problems.

#### **Conclusion**

Architects and planners have made progress toward building useful structures. One post-occupancy evaluation can help expose gaps between intention and result. However, physical structures change, and occupant characteristics and needs can change even more rapidly. By instituting a systematic program of annual monitoring of the quality of student life, campus planners can more readily perceive changing trends and determine student-housing unit and social-physical interactions.

The Cycles Surveys was developed under the conditions of limited resources in the process of building a quality institutional research program capable of longitudinal research, continuous monitoring of a broad range of social and academic variables, and data comparisons with other institutions. With each year's growth of its data base, Cycles has been able to answer more questions from a wider variety of decision-makers.

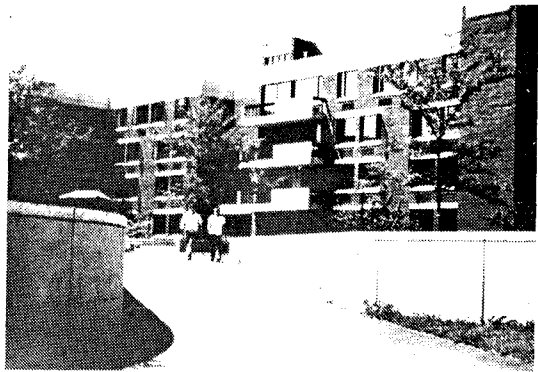
Some industrial firms have maintained longitudinal surveys of markets and clients for some time, but only recently have such techniques been applied within the business organization. The Cycles Surveys approach is new to colleges and universities. The Cycles Surveys have been found useful at Hampshire College; they have been found helpful at a few other colleges with which we have collaborated (Kegan, Benedict & Grose, 1975).

#### Note

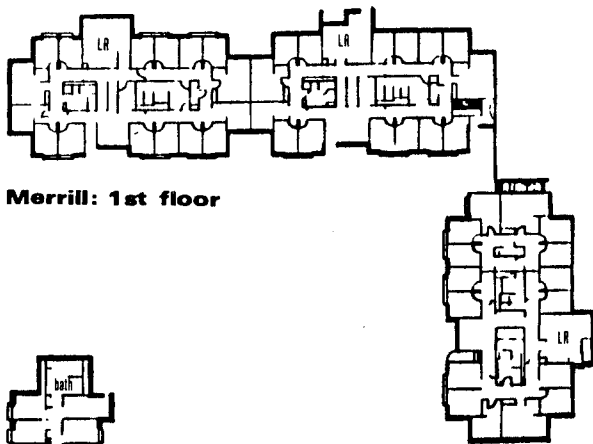
Figures 1-4 were taken from Becker, Franklin D., 1977, *User Participation, and Environmental Meaning: Three Field Studies*, Ithaca, N.Y. Program in Urban and Regional Studies, Cornell University.

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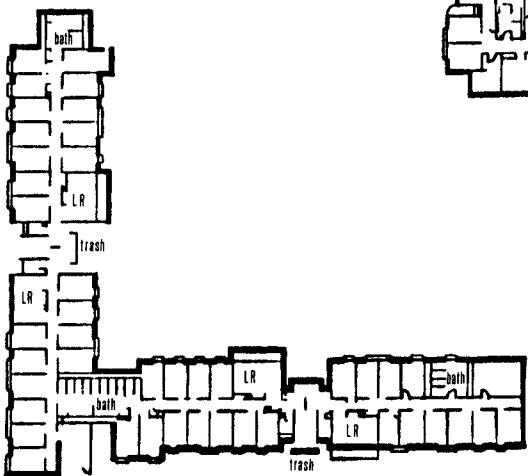
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Merrill and Dakin Houses have similar exterior appearances.

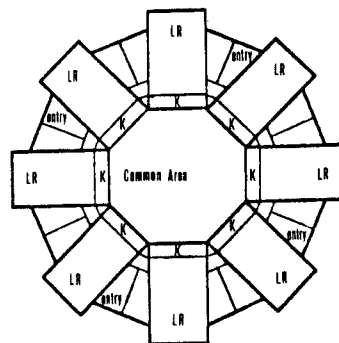


Merrill: 1st floor

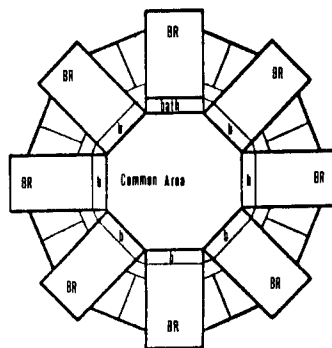


Dakin: 4th floor

FIGURE 1 — Merrill & Dankin Houses

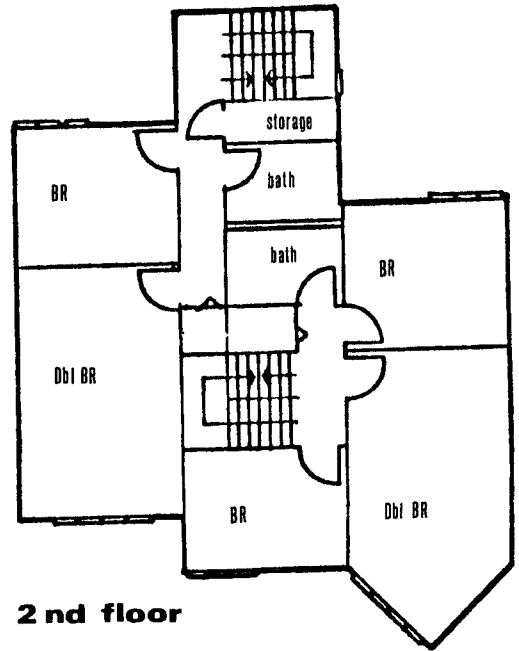


Level 1

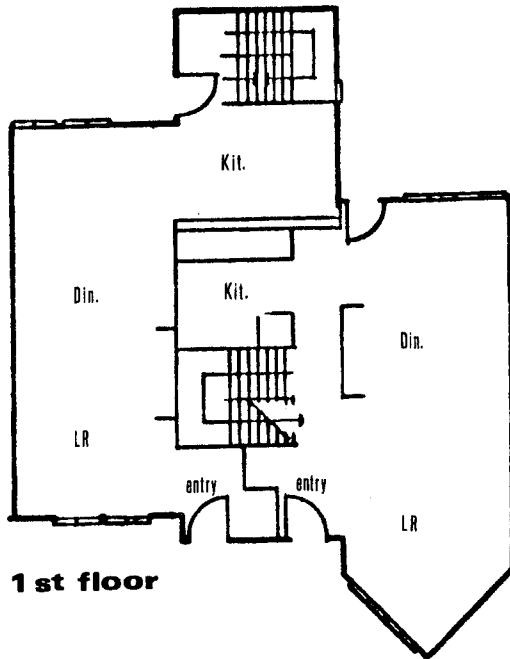


Level 2

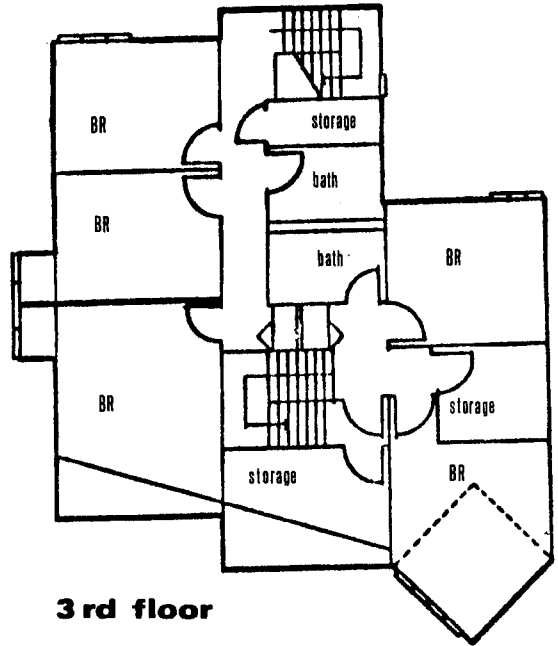
FIGURE 2 — Greenwich House



**2nd floor**



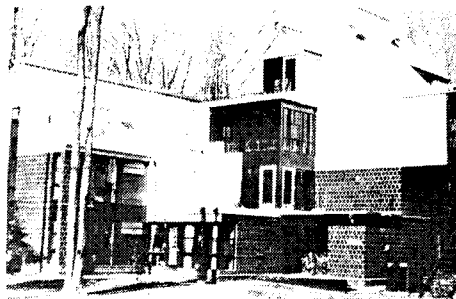
**1st floor**



**3rd floor**

**FIGURE 3 — Enfield House**

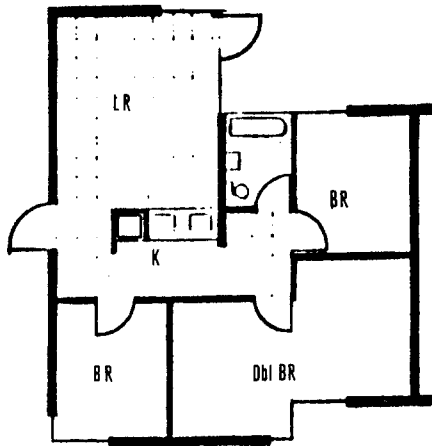




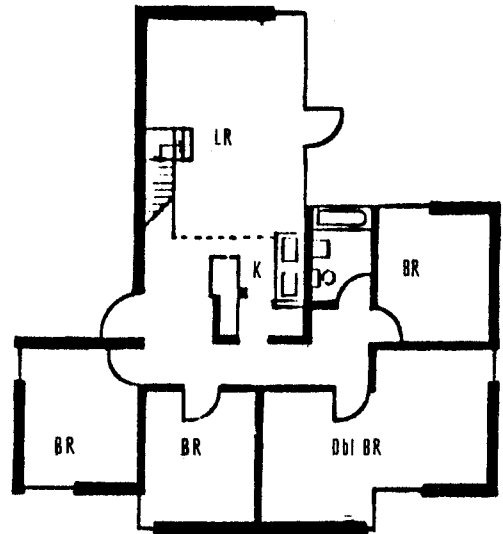
**Prescott House**



**Chandler Village**



**Small Group Unit**



**Large Group Unit**

Interior plans are essentially identical.

**FIGURE 4 — Prescott House & Chandler Village**