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ABSTRACT

The interaction between changing student populations and the study-lounge facilities provided for their extracurricular higher educational experiences is considered. Trends indicate that increasing numbers of students are commuting to the college campus and that: the commuting student lifestyle can be characterized by multiplicity of roles; commuting students can best be characterized by their heterogeneity, a factor that mandates a multi-faceted approach to planning; time on campus and for higher education is limited; and the commuting student experience of the college or university has some common elements, including the food service, library, and bookstore. Two important considerations in planning for public space are the apparent need for personal space and individual territory. Research has indicated characteristics of study space that are important to student comfort and concentration. It is suggested that the study-lounge serves a multiplicity of functions for the commuting students, a factor that has implications for the design of multiple use space. The commuting student frequently needs space (for study, conversation, quick meals) in close proximity to classrooms; therefore, the study-lounge should be located on an established traffic pattern. In design preparation, three types of data need to be gathered: identifying the most frequently occurring activities, the relationships among the activities, and the requirements for their performance. Two examples of the application of this design process are described. (SW)

Redesigning Our Campuses to Meet the Needs of Our Commuting Students: Study Lounges

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"Whem enlightened as to the effects of the physical environment upon behavior, he designs by intent; but when ignorant of these effects, he designs by default."
--Robert Werhli (Beasy, p. 12)

Over the past two decades, the number of students in higher education who commute to campus has been on a steady increase. Depending on whose estimate you use, commuting students now outnumber their residential counterparts by anywhere from two or three to one, (Trueatt, 1974; Educational Facilities Lab. 1977; Flanagan, 1976) In the American higher education system the non-residential student now represents the majority with the residential student being the atypical minority.

For many of these commuting students, the collegiate experience consists primarily of the parking lot, a faculty member in a classroom, a classroom building and its hallways, the registrar's and bursar's office, and possibly food service facilities. Many students have been observed studying or eating lunch in their cars or sitting on the floor in hallways while waiting for a class. As the Educational Facilities Laboratory noted:

> Essentially what commuting students lack is a base from which to operate, a place to hang their hats. They need facilities to park their cars and their bicycles, to place their belongings and their children, to study, to grab a quick bite, or take a short nap; they need "hangouts" where they can meet friends or play a casual game of ping pong or pool--in short, places in which they feel they belong and can spend their time on campus productively (1977, p. 6).

The following article focuses on the interaction between this changing student population and the study-lounge facilities provided for their extra-curricular higher educational experiences.

Winston Churchill once said, "We shape our buildings and afterwards our buildings shape us." For many institutions, buildings (and administrative mind sets) were shaped in an era when colleges and universities

predominantly enrolled the traditional residential student. The student/student and student/faculty interaction was encouraged in places such as cafeterias, student centers, residence halls lounges, multipurpose, and floor areas. The conventional approach for commuter needs was the provision of lounges and food facilities found in student union buildings (Ward and Kurz, 1969). Other campus buildings provided classroom and laboratory space, and administrative offices for use by all. But as the number of commuting students has increased, additional attention must be focused on facilities better suited to their needs.

In recent years, anthropologists, sociologists, and psychologists (Hall, 1968; Sommer, 1969; Moos, 1976) have demonstrated a growing interest in the way in which the physical environment affects behavior. The central idea of this movement was that the fundamental purpose of design was not just to create a building or space, but to provide the physical settings where human beings could live together with maximum amount of useful and pleasurable interchange and a minimum amount of friction and stress. The corollary proposal was that this could be accomplished best through a collaboration between b[illegible]l scientists and designers.

Kurt L[illegible] 6) classical interaction model maintains that behavior is a function of the interaction of certain characteristics of the person and related characteristic of the environment or B=F (PE) (where B = behavior; F = function; P = person; E = environment). The person this paper focuses on is the commuting student. The environment is the college or university as experienced by this student. Many of these statements, however, will have equal importance for the traditional, residential student as well.

The College Experience for Commuters

When we speak of the commuting student, there are a number of interrelated characteristics which should be kept in mind especially as they impact upon their college experience. While one can characterize the traditional, residential student population with a fair degree of accuracy (e.g. largely white, middle class, 18-21, etc.), there are simply few generalizations about the total commuting student population which would be true. Time spent on campus may be brief. Knowledge of the faculty, university facilities, and even the total campus may be extremely limited. While friendships may be formed on campus, the commuter is less likely to see the campus as the focus of his/her social life. The predominantly commuter institution becomes another facet of our consumer society where students go for specific needs, just as they go to the shopping center or drive-in restaurant for other needs. Rather than envisioning one entity, "the student body," it is much more accurate to think of commuting students as a very large, independent body of individuals, each one with a particular set of expectations and needs.

Nevertheless, there are several facts which hold true for most commuting students, and should be given consideration whenever one discusses commuting students:

1. The commuting student lifestyle can be characterized by multiplicity of roles. Commuting students tend to be employed more than resident students (Schuchman, 1974; Harrington, 1972), they display a much broader age range than the traditional, residential students (Chickering, 1974),

and they [illegible] many different levels of adolescent and adult development. In addition to work and family responsibilities, others are created by maintaining their own place of residence on a daily basis. Higher education competes with work, home, and social commitments. Counterbalance (1974) found that for commuters [illegible] work environment generally held priority over the educational environment.

While studying transfer students at an urban university, Scherer (1975) found that many of these students (older, married, and employed) were developing strategies which allowed them to allot time among several competing priorities. While many educators interpret these competing priorities as a lack of commitment to higher education, Scherer's findings suggest that such a student may in fact be gaining a long-term commitment to learning while also developing strategies for coping with the demands of several different career patterns.

2. Commuting students tend to lead a "divided life"

For the past two decades, the literature on commuting students has characterized their lifestyle as "divided" due in large part to their multiple roles (Ward and Kurz, 1969; Hardwick and Kazlo, 1974; Chickering, 1974; Harrington, 1972, Schuchman, 1974). Social, emotional, and intellectual development occur in different settings, with the college or university providing the primary setting for intellectual development. A student leader recently commented that commuting students are more likely to become involved with campus activities which are promoted by academic-related student organizations; the feeling was

that commuting students are more inclined to participate in activities which relate to the course of study. Personal schedules and environmental demands compete to prevent the commuter from forming easy friendships with other students unless there are faculty activities which encourage such interaction (Astin, 1977; Ward and Kurz, 1969; Chickering, 1974).

3. Time on campus and for higher education is limited.

Another major fact for most commuting students is that they spend a limited amount of time on campus. Because work and family commitments tend to be more important for commuting than for resident students, (Schuchman, 1974; Harrington, 1972; Finkler and Leach, 1979), time constraints increase, regardless of age. Many commuting students plan course load around their work (and parenting) schedules. Such students must also allow time for travel to campus, time which may not be very flexible (Hardwick and Kazlo; 1973). As fuel costs have increased many commuting students opt for car pools or public transportation, which reduce individual costs but can also add to the time constraints. The busy schedule also tends to force commuting students to study wherever they can find time or place (Dressel and Nisula 1966; Gocek, 1970). It is clear that time tends to be constrained for most commuting students.

4. The commuting student experience of the college or university has some common elements even though the group itself is highly heterogeneous.

For most commuting students, the college or university experience usually is represented by faculty members in the classroom, the parking

facilities and transportation system, and the registrar's and the bursar's offices. The common experiences might also include food service, the library, and the bookstore as well as some other services and facilities. Beyond these commonalities, the heterogeneity of the population creates a more heterogeneous experience. For example, the returning woman may interact with the childcare center, the apartment dweller with the off-campus housing service, etc. Their limited experience of and with the university appears to be the main item of commonality.

5. Commuting students can best be characterized by their heterogeneity. This fifth trait is not a direct characterization of the commuting student's experience of the university, but it is one which all planners should keep in mind. Historically, literature on the commuting student prior to the 1960's tended to view this population as generally homogeneous. During the 1960's, research began to suggest that student personnel workers were becoming more aware of more distinct subgroup differences within the student body. (Slade and Jarmul, 1975; Pettyway, 1968; Baird, 1969; Sedlacek et al, 1976; Chickering and Kuper, 1971; Astin, 1973; Hountras and Brandt, 1970; Ryan, 1970). A study of dependent commuters, independent commuters, and resident students found that subgroups of commuters differ more from each other than from residential students, with the conclusion that commuters should be considered a heterogeneous grouping rather than as one similar but amorphous group (Foster et al, 1978). This heterogeneity creates the need for a multi-faceted institutional response.

Unlike their more traditional, residential counterparts, the commuting students present the institution with a widely varied set of prior experiences and educational needs. As has been described above, 1) the commuting student tends to experience the university differently than does the residential student; 2) because of a number of characteristics in the commuter student lifestyles, interaction with the faculty, the facilities, etc., tends to be quite different than the interaction of their residential classmates; 3) the commuting student lifestyle is characterized by a multiplicity of roles; 4) the commuting student tends to have most of his/her emotional and social developmental needs met in settings other than the campus; 5) the commuting student is heavily constrained by time demands; 6) despite their many differences, commuting students do share some common experiences, primarily centered in such offices as the registrar's, bursar's, parking facilities, library, food service facilities, etc.; 7) but most of all the commuting student population is extremely heterogeneous, and this heterogeneity mandates a multi-faceted approach to planning.

HUMAN FACTORS IN DESIGN FOR STUDY-LOUNGES

While campus planners and allocation boards devote their attention to the classroom and residential needs of the colleges, too often an underlying assumption is that time outside of class is "time wasted." As a consequence, very little thought or preparation goes into the development of space which is specifically designed to meet the casual needs of the commuting student population. As Richard Myrick pointed out in a study of student movement and social intereaction in the Washington, D.C., high

schools, the time between classes played an integral part in the education process. Students not only carried on informal social discussions between classes, they were also using this time to discuss assignments or classwork and study (1968).

In those instances where lounge spaces have been created in our colleges and universities, it is many times without real regard to established patterns of human behavior. For instance, most lounges today have a furniture arrangment which can adequately accommodate groups of perhaps six to eight people. Yet research by Robert Sommer (1968) has shown that informal, self-generating groups are generally much smaller than this. Out of 7405 groups observed in a wide variety of settings, 71% contained only two individuals, 21% three individuals, 6% contained four, and only 2% five or more. His conclusion was that unless structured, organized activity was taking place, informal groups of more than three people are uncommon. On campuses dominated by commuting students, where there are even fewer opportunities for personal interaction and decreased likelihood of close campus-based friendships, this pattern may be even more pronounced and solo students frequently in evidence.

There is much which can be learned from the social scientists which has major impact on the development of spaces for commuting students. While this knowledge has been around for several years, it is seldom used as we plan aesthetically instead of humanistically.

PERSONAL SPACE AND INDIVIDUAL TERRITORY

Two very important considerations in planning for public space are the apparent need for Personal Space and Individual Territory. These concepts

are better known to the anthropologists, sociologists, and psychologists, but in recent years many educators and architects have recognized their significance in the design process.

Personal space has been defined as a movable area which surrounds the individual, extending "from a point just outside easy touching distance by one person to a point where two people can touch fingers if they extend both arms" (University Facilities, 1964, p. 33). If an individual enters another's personal space, in most situations that person will step back to re-establish this comfortable distance. The phenomenon appears to be culturally enforced for several authors note that the proper distance varies cross-culturally. However, it is still a strongly engrained characteristic as numerous studies show. For example, one author noted that library users are extremely reluctant to occupy a vacant seat if another closely adjacent one is also occupied and will often move to another place if anyone sits down too closely beside them (Sommer, 1969, p. 35).

The counterpart to personal space is individual or personal territory. It is "the space that the individuals of a group assume as their own, in which outsiders are considered guests or interlopers. Its boundaries are set by recognizable but often unpredictable elements of plan or space relation" (University Facilities, 1964, p. 33).

These two factors are futher expanded by Hall to include four categories: Personal distance--close phase (one-and-a-half to two-and-a half feet); Personal distance--far phase (two-and-a-half to four feet); Social distance--close phase (four to seven feet); Social distance--far phase (seven to twelve feet). Beyond this, distance shifts occur which render the area as public space (Hall, 1968, p. 119). From his studies of

proxemics, Hall notes that each distance is usually characterized by a corresponding degree of familiarity, intimacy, and voice level. In crowded public areas, such as an elevator, where personal distances are involuntarily violated, the individual usually becomes uncomfortable and assumes adaptive behaviors, especially the avoidance of eye contact. Similarly, if a person enters into a casual conversation with someone who stands too close, there is usually an unconscious step taken to return the personal space to a more comfortable distance.

Proxemic studies have established four types of individual privacy: tactile; visual; audial; and olfactory (Hall, 1966).

Study Space

Sommer notes that in addition to the actual physical infringements of personal space, there can be auditory and visual interruptions which disturb the student attempting to study (1969, p. 141). Research on four hundred students from four eastern colleges found that eighty-five per cent expressed a preference for small study spaces and most wanted to study in a place where only study was going on (Amherst Committee).

This report also concluded that the main characteristics of good study space should be 1) a small room where one can study alone, or if possible, with one or two students; 2) a place exclusively for study--at the time; 3) free from distraction of movement or noise caused by others; 4) free from noise from physical sources, e.g., typewriters, telephones, plumbing, heating; 5) adequately lighted; 6) equipped with personal control of temperature and ventilation; 7) easily accessible to books and other study materials;

8) equipped with a comfortable chair, adequate desk space, and bookshelves;

9) a place to relax, wear "easy" clothes, etc.; and 10) have decor and furnishings which are plain but not ugly, definitely not plush or arty (Hsia, 1968, p. 9).

While we are designing these common study/lounges for use by all students, it is helpful to recall that most studying is done by single individuals or by pairs, and smaller carrels or tables are most useful.

In an experiment designed to test the effectiveness of "markers" for holding space in a high density study hall, a researcher found that there was a high occupancy rate for all control or unmarked areas. However, when some evidence of a prior occupant was left in the same area, newcomers would respect the territorial claim of the unseen and unknown "ghost." A sport jacket and notebook-texts-pen reserved the chair for the entire two hour period under observation. Magazines piled neatly in front of a chair reserved the space for seventy-seven minutes , whereas the same magazines randomly scattered kept it for thirty-two minutes (Sommer, 1969, p. 53).

A library table with adequate and very obvious divisions should restrain the sprawlers to some extent and actually increase the useful capacity within the same space. In the same manner, two short couches in an airport lobby will accommodate more people than one long one (Deasy, 1974, p. 62).

The significance of this personal space and territorial imperative can be seen in other studies which have related commuting student needs to facility planning. Brunt and Williamson (1974) found that the largest amount of free time on campus was spent studying. In their study of facilities at the University of Alberta, they also found that students indicated few areas existed where students could engage in a "rap session" without encroaching on other students' needs for quiet study areas. Similarly, Dressel and

Nisula (1966) found that although commuters reported they had private study facilities away from campus, busy schedules forced them to study wherever they could find the time and the place.

However, except in those situations where a quiet study area is created, the study-lounge also serves as a socialization area. Another study by Williamson (1974) found that next to study space, lounging space is the most important informal time need. Lounge areas also were highlighted as needed in research done by Counelis and Dolan (1974) at the University of San Francisco.

Clearly, the study-lounge serves a multiplicity of functions for the commuting students which will occasionally create conflicting or incompatible space configurations for planners and users alike. The needs of personal space and territory which seem optimal for a study space do not necessarily meet the needs for a lounge space, and planners should try to keep all sets of requirements in mind when designing multiple use space.

Location

A final factor to consider is simply the location of the study-lounge along a previously established traffic pattern. As mentioned above, many commuting students have a very narrow perception of the university which is a direct outgrowth of their outside time commitments, their lack of a personal base on campus, and their movement from their transportation center to classroom, etc. These students frequently need space (for study, conversation, quick meals, etc.) in close proximity to their classrooms, reflective of their many time demands and lack of familiarity with the total campus offerings. By locating these study-lounges in areas which are visibly adjacent to already established patterns of travel, there is an

increased likelihood of effective use, despite the mitigating influences of distracting noise or visual commotion. The proximity to other facilities and services may well be of more importance to the commuting student than many of the other seemingly attractive variables cited earlier, and the location of the lounge should be a preeminent consideration which impacts upon all the other factors which contribute towards a successful commuter study-lounge.

DESIGN PREPARATION

Once the institutional commitment to commuter study-lounges has been made, it is advantageous to apply a design strategy to the planning process to better insure optimal use of resources. The following plan for design preparation is derived from Corwin Bennett's Spaces for People: Human Factors in Design (1977). In that work, he notes that:

> Two things should be accomplished during the design preparation (programming). One of these is to get an understanding of the organization to be accommodated by the design. The second is to formally gather information needed in planning (p. 70).

Bennett recommends that the design team ask a series of questions which will greatly facilitate their overall planning process:

> What is it hoped to accomplish in the new layout?
> What problems exist in the present layout that should be overcome?
> What constraints are there on the new design?
> What data preparation has the organization done?
> Does it have detailed department specifications, preliminary layouts, drawings of the present space, organization charts, and job descriptions? (p. 70)

With the answers to these questions, the design team can then begin their process with an understanding of the purposes and goals of the environmental configuration.

In a setting which requires a multiple use space such as study-lounges,

the design team would implement a transactional layout and a functional layout. The former model seeks to understand the transactions or activities which will occur in the space and arranges them in a logical order or sequence. For the study-lounge, the typical transactions would occur either in paired or group study and when students use the space for lounging purposes such as conversation or snacks. Each of these activities has a special set of requirements such as lighting for study, trash containers for snack waste materials, proper placement of chairs for conversation, etc. The second approach, the functional layout, takes the related functions constituting any activity and considers them together since the major design questions are the interrelationships of several activities, such as the competing requirements for quiet study space, the need for this space to be located along a well trafficked corridor, and the need of students for occasional use of this space for conversation. The transactions which occur within that space all may compete functionally for priority in the design decision, and by understanding their value and interaction, the design team will be better prepared for their decision.

During the information gathering process, three types of data need to be gathered: 1) an identification of activities; 2) the relationships among them, and 3) the requirements for their performance.

Identification

The transactions and activities that will be the manipulated components of the layout need to be identified. In the case of transactions, the designer would like to identify examples of the most frequently occurring activities. For the study-lounge, we have already noted that these include such activities as study (individually and in groups), conversation, and eating, separately

and simultaneously.

Relationships

Transactions may occur entirely within a single activity and thus should be optimized as part of the design for that particular activity. However, if a transaction involves several activities, the transaction should influence the closeness-desired relationships. If two interrelated activities have frequent, necessary contact, it would be logical to place them close to one another. In planning for study-lounges, the role of traffic patterns in close proximity to the proposed lounges would be one consideration, as would the location of other facilities such as vending machines, departmental offices, restrooms, telephones, etc. Data could be gathered to indicate the level of activity for each particular relationship (e.g. how often do students bring coffee to the tables--regardless of the present location of coffee service). Although this data is useful, in most cases, the closeness-desired relationship rests on the value assumptions applied by the planners and must therefore be somewhat subjective.

Requirements

Regardless of the types of transactions and activities, there should also be a long list of physical requirements for each function to be performed in the area. For our study-lounge, the study requirement might include a) desks, b) good lighting, c) isolated from noise, etc. The list of requirements for the lounge function of that same space might generate an entirely different list which could include such details as a) comfortable love seat, b) coffee table, c) open to all, etc. Recognition of the need for social interaction might generate yet another set of requirements, again slightly different: a) chairs opposite one another, (b) quiet but not sterile, c) conducive to

interaction, etc.

APPLICATION

Elements of this extensive design process were used by teams functioning independently at two different institutions in the development of lounge spaces, and both are illustrative of the many considerations which can enter into any design decision. These examples were selected because they give a good portrait of factors that are similar for the traditional student center study-lounge and for a new adaptation of classroom building space for a large study lounge, while also showing how each setting is unique.

Student Center

Among the many factors listed in planning for study-lounges in an outdoor plaza at California State-Los Angeles were the following:

> --Both faculty and students expressed a need for more contact outside the classroom.
> --But actual movements outside of class are determined by individual needs for services and facilities.
> --Thus contact would be increased if services that are essential to both groups are clustered in one place.
> --Contact will be further increased if traffic is concentrated at at a few access points.
> --A second pattern statement was to deal with the desire of both students and faculty for more informal contact outside the classroom. This was derived from the interviews and also has a bearing on the design of a building entrance:
> Once eye contact (the first step in social contact) is established certain facilities will tend to prolong contact.
> There is a need for a place to stand and talk outside the line of traffic a place to sit and continue the conversation.
> The traffic pattern should allow individuals the option of avoiding conversation or contact if desired (Deasy, p. 107).

Classroom Building Study Lounges

Some of the considerations which went into the design of study-lounges at a predominantly commuter urban institution are contained in the paragraphs below:

Places to study, free from disruptions and distractions, and with adequate

lighting are badly needed and must be provided in convenient locations. This will compensate for the present inadequacy--not absence--of such spaces both at home and on the campus. Study areas should be widely dispersed throughout the University in order to encourage their use for the hour between classes as well as for longer periods. At the peak hours, existing facilities are very heavily used. During these hours students who are unable to find a spot in their favorite place use stairways and windowsills to read and write. Ones who are more easily discouraged just vegetate for an hour. There are always a few vacant seats in some other lounge or in the library but the person with fifty minutes between classes can hardly afford the time to look. Except in the coldest weather, late afternoon students can be seen studying in parked cars on every street.

An alternative to locating lounge commons in existing buildings is to place them between existing buildings as points of maximum pedestrian movement. This alternative has the advantage of binding the existing units into a continuously sheltered flow. These new units can take on their own identity andd be designed directly for their intended purpose. This would cause less interruption in the amount and continuous use of existing academic space and reduce the intimidation that formal academic space tends to impose on the more casual social functions. A large parking structure to the east of --------- may suggest that an overpass be installed across ---Avenue. A facility in this location becomes a place to watch from and be seen. It also serves as a bus waiting place. Such a unit could act as a campus address for many students through the introduction of mailboxes and lockers. (Ward and Kurz, p. 36)

Another element in the design for this same campus was the development of modules for study and lounging. These modules served a function which differed from that of the "linkage lounges" proposed above:

This module is imagined as a study and social center shared by students in a common program such as a departmental major or block program of inter-related courses. It would combine lounge, locker and mail, and study carrel facilities in which students who participate in the common program could center their on-campus, out-of-class activities. This kind of facility is also seen as being supportive of the kinds of departmental clubs that have existed on the campus. If successful, it could become a basic program requirement as new departmental facilities are developed.

Since it is relatively private in nature, the study commons should be located near the parent department, away from the building's public traffic.

A typical classroom in the building, for example, could be converted into a study commons of thirty study carrels with lounge space for about twelve. The actual size of a facility would be a function of departmental characteristics and should be designed in close cooperation with those who will use the space. (Ward and Kurz, p. 37)

The examples above have shown that many behavioral considerations must be weighed in preparing final design.

SUMMARY AND CONCLUSIONS

The authors have attempted to show that as our campus populations have become increasingly comprised of commuting students, there has been a corollary increase in the need for space which has been designated for commuter (and residential) student use for out of classroom activities such as study, lounging, casual snacks, social interaction, and so forth. Because of numerous factors, including tight budgets, desire for security from theft, vandalism, etc., predominance of administrators trained on traditional, residential campuses, and a failure to fully appreciate human behavior factors in design statements, there has been very little adjustment of campus planning to meet the varied needs of our commuting student populations. As our campuses become more heterogeneous, it follows that the demands upon our campus facilities become similarly varied, and we must plan in a way which accounts for these varied (and sometimes conflicting) needs, especially when designing study-lounges.

It is hoped that through a recognition of the different nature of the collegiate experience for commuting students, through an understanding of human behavioral factors operative in environmental design, and through the use of a comprehensive design preparation process, we can develop study-lounges which are better suited to needs of our students.

Much of this argument has been directed towards what ought to be done, given the best of situations. However, at the same time the authors also recognize that in the real world, the optimum is seldom attainable, and if

pressed on this issue, they would agree that even one desk placed in a drab hallway makes a better lounge than no desk at all. But if an institution truly desires to respond to its students (not to mention retain them and serve them well in a highly competitive educational marketplace), then effort must be directed towards doing the very best with the resources available. And these resources should include not just dollars, bricks, and materials, but also knowledge and information about commuting students, human behavior, and methodical planning.

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