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A Research-Oriented Approach to the Teaching of Environmental Psychology

In 1977 the Fall issue of this Journal dealt with the recently developed field of environmental psychology. The following paper describes an example of initiative that this development has sparked off in a local classroom. Rosenbloom, teaching in a Montreal college, gives an account of the way in which events in his own building led him to introduce into the work of his course elements of practical experience that finally become its chief feature. This feature both ensured that his students acquired an understanding of environmental factors that lectures had failed to establish, and also solved the problem (not unfamiliar to instructors at all levels) of coping in the one course with two sets of students coming to it with quite different levels of theoretical preparation.

Since the publication of a number of now classic works on man-environment interactions in the late 1960's and early 1970's (for example, Hall, 1966; Sommer, 1969; Proshansky et al., 1970), there has been a growing interest in both the research into and the teaching of a rapidly evolving discipline known as environmental psychology. Research on such phenomena as crowding, privacy, personal space, and building design has led to the offering of courses of this nature to students in liberal arts programs as well as to those enrolled in professional schools such as engineering, architecture, and urban planning. While the last decade has witnessed a virtual explosion in the number of books and articles in this area, comparatively little has been written about the pedagogical approaches which have been used in dealing with this new subject matter.

Thiel (1977), in a recent article, has demonstrated the rich curricular possibilities in this area by devising a master plan for the development of programs in what he terms "person-environment relations," which could be designed with differing degrees of specialization from the undergraduate arts level to that of the post-graduate environmental consultant. While Thiel has eloquently stated the case for the future,

at present most of us who teach environmental psychology have but a one-or two-semester course at the undergraduate level with which to experiment. It is therefore within the framework of this single course that decisions must be made as to which pedagogical tools will be employed to make the impact of man-environment interactions most effective. The present paper is an attempt to describe and trace the evolution of one approach which I have found very effective in teaching courses of this nature to both junior college psychology students and fourth year civil engineering students.

A casual perusal of the few complete textbooks in environmental psychology (see Ittelson et al., 1974) reveals a wide variety of topics ranging in scope from theoretical work on crowding, privacy, and human territoriality to researches on the complex behaviour patterns appearing in field studies of office buildings and open classroom environments. The very diversity of the subject matter presents a significant problem for the teacher who wishes to have a thematic line running through his course. One is torn between dealing with the pieces (concepts such as environmental perception) and grappling with the whole (for example, studying the stress of city life).

What ultimately motivated me to teach the above material from my present vantage point was the realization, in the first few weeks of teaching this course, that the standard lecture or seminar framework was insufficient for getting the student to appreciate the complex issues in this field. Somehow the best article on privacy or crowding had a two-dimensional quality to it which elicited glassy stares from students in class discussions. Remembering that one of the reasons for my own interest in this field stemmed from the negative experience of living in an apartment unit directly over an expressway helped me to realize that written materials could not adequately represent the rich cognitive and emotional meanings of an experience such as "crowding." In essence many of the concepts in environmental psychology represent spatial relations and information, and hence are *non-verbal in nature*. To borrow an analogy from contemporary brain research, environmental psychology encompasses many concepts which are "right brain" in origin (that is, intuitive, non-verbal, emotional), as opposed to the course content of other areas (for example, political science) which are "left brain" in origin (that is, rational, verbal, intellectualizable) (Ornstein, 1969). Besides the above reasons my teaching experience over the years led me to the conclusion that some basic courses in psychology suffer little from the unidimensional, linear, "cool medium" approach of the lecture method, because the pedagogical aim is that of providing a quick overview of many different topics. However, as the subject matter becomes more specific and personalized (for example, courses in social and abnormal psychology), it has been necessary to seek out a "hot medium" method which can better communicate complex multi-dimensional concepts. It was with these considerations in mind that I began to contemplate the incorporation of a large experiential component into courses dealing with environmental problems.

The genesis of the present method

The approach which I presently utilize in the teaching of environmental psychology arose from a number of fortuitous circumstances during the first course which I taught in this area, and hence while I was struggling with the non-verbal nature of the subject matter.

A colleague of mine in the Psychology Department at Vanier College, in an attempt to promote more interaction among faculty and students in the large Vanier complex, had decided to run a coffee and bake sale for a week in a deserted carpeted lounge area which was located strategically at the intersection of two corridors and adjacent to a bank of classrooms. In order to ensure some sense of stability in this deserted area, she asked the Service Department to erect large (8 foot high) cardboard barriers which were to be placed at the perimeter of two sides of this lounge. She also requested that some couches and chairs be placed in the space. Two phenomena characterized this exercise. Firstly, the coffee and bake sale, although well advertised, was not a success, and secondly much of the lounge furniture was rapidly "stolen" and later found in various other locales in the building. What emerged as interesting from the standpoint of the environmental psychologist was the fact that persons questioned as to their reasons for not attending the coffee hour often claimed that the cardboard barriers had given them the message: *Private Keep Out* — that is, they had assumed that some private gathering was taking place at which they were not welcome.

Being curious as to what effects the absence or presence of enclosures had on the behaviours of people using this lounge area, I asked two eager environmental psychology students to run a series of "coffee" weeks during which a systematic investigation of the openness-enclosure variable could be studied over a fixed time period. These students had special enclosures constructed, and realizing that they would be measuring a number of behavioural indices (for example, socializing, studying, sitting alone or with others), devised floor plans of the lounge area which could be used to chart the behaviour of each and every person entering the lounge.

This pilot study and another more extensive one which I conducted led to the finding that placing partitions around an open lounge area tends to encourage behaviour patterns characteristic of a "study centre," whereas leaving the same lounge open tends to produce a space which is used as a "social centre" (Rosenbloom, 1976). These findings were subsequently translated into design statements which led to the renovation of this lounge (Beck and Rosenbloom, 1975). What this research project demonstrated to me was that students involved in meaningful research of this nature begin to appreciate better the multi-layered concepts of environmental psychology.

Another significant happening which led me to a research-oriented

method in teaching this course was the decision by the campus administration at Vanier to consider renovations to many of the non-classroom spaces in the college including such areas as the cafeteria, lounge spaces, the student mall, and the library. Being aware of the benefits of user analysis research (Zeisel, 1974), wherein those persons who utilize a space have an active influence on how their area is to be renovated, I convinced the administration to hire an experienced environmental consultant, Robert Beck, who would head an extensive research project on the various spaces considered for renovation. Realizing that a considerable amount of data would be necessary for the final report, Beck and I decided to try a pedagogical experiment and offer a course in environmental psychology, wherein the main activities of students would be to act as researchers, whose goal it was to learn how users behaved in, and perceived, the spaces under study.

Students who enrolled in my environmental psychology course the next semester were told that this course would be more like a job than a school subject. They were informed that their main task would be to study each of six spaces in the college with the aim of determining how best to renovate these areas.

Each member of the class learned that he or she would be assigned to a group of 4 to 6 persons (for example, the Library Group) and that throughout the 15-week semester that group would be responsible for studying a space from the vantage point of user behaviours, attitudes, and perceptions of that space. Each student would be responsible for some 3 to 5 hours of field work per week outside of class, and the Group Managers, who were elected by their group and were given a double credit for the course, had to spend between 6 to 9 hours per week on field work and data analysis. Robert Beck and I would serve as research consultants whose role it was to help each group in designing user analysis questionnaires, give the occasional lecture on the importance of reliability in measurement, and write a final report which was to be presented to the college administration (Beck and Rosenbloom, 1975). It is to be noted that students were required to do most of the theoretical work, such as reading books and articles, on their own, as most of the class time was to be spent on research strategies. Thanks to administrative financial support, the Environment Project, as it came to be known, had its own office, a small budget for printing and stationery, and access to the computer facilities of the College.

Our experience with this course taught us that students who are involved in environmental psychology research projects begin to think and act like environmental psychologists. As each space under study was different in both spatial and social characteristics, members of each of these research groups found themselves having to invent new methodologies to answer questions which needed design solutions. For example, one group studying a very busy lounge, known as the Green Room, was faced with the task of determining the particular areas in

this space which were most utilized as against those areas which remained uninhabited during the day-to-day thoroughfare. Because of the fact that the Green Room had both fixed furniture (benches) and moveable wooden hexagonal seats, it was necessary to devise an index of *furniture movement* to get the data needed. This same group, which also had to map accurately the sex ratios of user populations, as well as the areas of the lounge most utilized during peak periods, quickly learned the meaning of the concept "crowding" from first-hand experience.

The term "environmental perception" became more than a text-book concept to these students when, time and again, researchers through questionnaire and observational data discovered that many of the spaces under study had two different user populations, the "regulars" and the "transients", each group having quite different views on the function of their space. The students in the Environment Project utilized skills in architectural drafting to draw accurate scalar maps for the behavioural mapping sections of many studies, while amateur photography buffs among them travelled to other colleges to get slides and snapshots of facilities similar to ours, for a basis of comparison.

What emerged was a piece of research thoroughly professional in calibre, wherein research data acquired in the process of the studies led directly to design implications. The true applicability of this "user-oriented" approach became evident when information acquired in the project was used to counter the desire of some administrators to change the entire nature of a lounge area. Both questionnaire and observational data demonstrated that one of the most important functions of this lounge was to serve simply as a place to watch other people go by and relax to the beat of music. The Research Manager of the Green Room Study Group, armed with our report, fought off vigorous objections by these administrators at a meeting of the Space Allocations Committee, and thus was able to preserve the basic nature of this space. Time and again, the involvement of students in relevant research endeavours tended to bring forth a zeal and enthusiasm unmatched in traditional course activities.

The course in its present format

The experience of the Environment Project, while exhilarating, was a rare occurrence which most teachers do not have on a semester to semester basis. I was still faced with the problem of integrating the valuable reading materials into an environmental psychology course slanted towards research. The final amalgam which makes up my present approach came when I began teaching a course entitled "Human Factors in Building Design" to civil engineering students at Concordia University.

Because these students lacked the basic concepts in psychology which even junior college students possessed, it was necessary to design a course which would deal with some of the fundamentals of environmental psychology before involving them in research. In addition, the very pragmatic nature of the student body necessitated that stress be laid on topics such as lighting, sonic design and acoustics, heating, and fire-escape design, which fit directly into the experiential framework of the civil engineer.

At the outset of this course students were told that the main aim of their work would be to learn how to apply some principles of man-environment interaction to the evaluation of a building or buildings that they were to undertake as the major project of the course. The first half of the 13-week semester was devoted to readings and discussion, at which point a list of suggested research sites (shopping centres, office buildings, and so forth) was given to students along with a "research methodology package," consisting of instructions on how to design user-analysis questionnaires and employ behavioural mapping, photographic recording, and other techniques utilized by environmental psychologists (Sanoff, 1977). Groups of individuals interested in a particular site were formed, and a two-or three-step research program got under way with the aim of producing comprehensive reports on user attitudes, perceptions, and behaviours in the spaces under study, as well as design recommendations where feasible. My role at this point changed from teacher to research consultant, wherein I gave

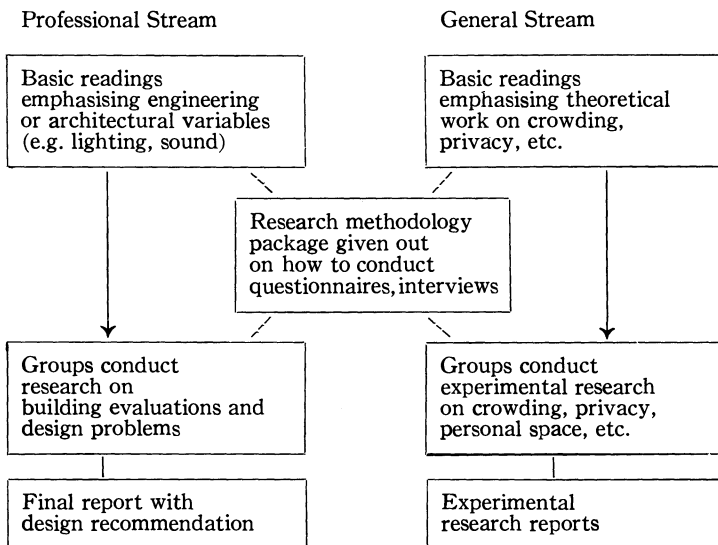


Figure 1

A Schematic Representation of a Research-Oriented Course in Environmental Psychology Taught to both General and Professional Students.

feedback at each step of the way such as helping in the design of questionnaires.

As a specific example of the above procedure, one group of students became particularly interested in comparing the built environments of two fast-food chain restaurants, Macdonald's and A&W. This group spent the class time in the second half of the semester (a) choosing appropriate sites for their studies, (b) teasing out information from the class material to be included in preliminary interviews with employees, managers, and users of each restaurant, (c) bringing back data from preliminary interviews and utilizing these results to create more detailed questionnaires for broader dispersal, and (d) getting instructions on how to write the final report. My role during these exercises was to help in the brainstorming sessions which were necessary to create the interview questions, with the aim of having the student researchers write succinct and penetrating questions, and to go over the preliminary data with them so as to suggest the direction of the more detailed questionnaire and final recommendations.

Fig. 1 shows a schematic representation of how the same course can be designed for both undergraduate psychology students and persons undergoing professional training such as architects or engineers.

A research-oriented approach to the subject matter of environmental psychology has a number of practical uses. Although most trained professionals covet the activity of basic research as their exclusive domain, I believe my experience demonstrates that students are in a modest way capable of adding some useful knowledge to our field. Certainly in terms of user-analysis studies, I have found few professionals who would fault the quality and applicability of the work done in such endeavours as the Vanier Environment Project. Similarly, civil engineering students at Concordia have tackled some fundamental environmental problems, such as the inadequate lighting provided in some auditoria and the confusing directional signs in the main building of that university, and have provided feasible solutions based upon their engineering expertise. Other students of the same training have addressed themselves to the "wind-tunnel" effect created at some Metro stations because of the design of exit doors.

There are a number of settings in which students might acquire acumen in environmental problems and some research capabilities. Sommer (1974) has pointed out that besides recognizing the importance of the design or renovation of any particular building, administrators must constantly attune themselves to the needs of a given environment to have it function efficiently. At the present time I am working with the campus administration at Vanier College to reduce the littering which plagues a number of places in the college, notably the cafeteria. Robinson (1976) indicates that subtle modifications to the littered environment and certain behavioural reinforcement techniques hold promise for reducing littering behaviour. My students and I are de-

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vising techniques for monitoring the effect on the behaviour of cafeteria users of the addition of trash receptacles and of changes in the clean-up procedures.

The value of the experientially-oriented course in teaching psychology is something which has just begun to be exposed. Other instructors are beginning to look at the effect of "first hand experience" on performance in experimental psychology courses. It is my aim to update the above-presented format constantly and to devise methods to evaluate quantitatively the effects of this type of course on the learning experience.

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