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EXPANDING PROFESSIONAL DESIGN EDUCATION
THROUGH WORKSHOPS IN THE APPLIED BEHAVIORAL
SCIENCES

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This paper describes the background, rationale, design, and evaluation of a workshop for architecture and planning students at M.I.T. in which concepts from the applied behavioral sciences were used to illustrate and explore the dynamics of team collaboration in design professions.

The idea for a Team Building Workshop originated in studies of the architecture and planning professions carried out by Steele (1969) and Schein (1972). In talking to members of different professions (architecture, medicine, law, engineering, and social work) it became apparent that a number of trends were occurring within society which were having a strong impact on the professions. Among these the most salient were 1) an increasing acceptance by the professions of large scale problems like those of urban renewal which would require large scale inter-professional collaboration; 2) an increasing acceptance of the idea that the concept of "clients" should include not only the fee-paying individual or organization, but should be broadened to include categories of people, like low income families, who might not initially see themselves as clients; 3) an increasing acceptance of the idea that the proper practice of a profession should be broadened to professionals going to their clients, to the "creation" of clients where desirable, and to more active collaboration with clients in generating solutions to problems (O'Hare, 1969). We identified a kind of professional--the role innovator--who was characterized by a high degree of social concern and the willingness to redefine the accepted concept of how a profession should be practiced (Schein, 1971).

We found that professional education typically did not prepare the young professional for the demands of the new roles we were

identifying (Abercrombie, 1970). In particular, it was very clear that collaboration with other professionals and with clients, and working as a member or leader of inter-professional teams would become more and more common, yet no training at all was evident for such new roles. Behavioral and social science courses offered in professional schools tended to concentrate on the theoretical substance of psychology, sociology, and anthropology as it applied to law, medicine, architecture, or planning, but no attention was given to the behavioral skill training of the future professional. It also seemed clear that professional schools could not afford to add full-time faculty in the areas of the applied behavioral sciences who would provide such training. We therefore wanted to explore the idea of a concentrated workshop done for the professional school by outside faculty, but with the collaboration, in planning the workshop, of students in the profession to help identify the key skill areas that needed to be covered in the workshop.

The basic idea was acceptable to a number of key faculty in the school we worked with, but we did not get off the ground until a number of graduate students from architecture and planning took the initiative to approach members of the Sloan School (especially Ed Schein). We then developed a preliminary proposal which was sent to the School of Architecture and Planning for funding. We suggested a "pilot project" be run during the Independent Activities Period (between the Fall and Spring terms) as this provided a minimally disruptive, convenient way of experimenting (many of the faculty of the design schools had mixed feelings about the applied behavioral sciences) without a large, long-term commitment of funds and energy.

Schein's role at this point was seen to be the initiator of the idea and the implementer of the project, though not necessarily the faculty member for the workshop. He felt that it would be better to have someone who was more familiar with architecture be the key faculty, hence suggested Fritz Steele. To supplement Fritz, we decided to use Mark Plovnick, a doctoral student in Organization Studies who had experience in team building workshops (in this case with industrial and medical teams). Steele, Plovnick and Schein met with one of the members of the architecture and planning graduate student body to lay out the basic design constraints on the workshop.

Goals and Design

There were four main goals for the workshop--four areas which we hoped to influence through the week's activities:

- 1) To increase participants' awareness of themselves and their behavior, of group behavior, and of the consequences of their actions.
- 2) To stimulate learning about the dynamics of team action, particularly of inter-disciplinary teams in the environmental design field.
- 3) To stimulate learning about larger systems and the processes involved in effecting change in them.
- 4) To encourage the application of new concepts of teamwork and behavior to the participants' most immediate setting: the School of Architecture and Urban Design. (And testing the workshop format for possible future use in the School.)

Our basic method was a four-day workshop (meeting morning, afternoon, and evening) with a heavy emphasis on the laboratory method of learning about behavioral concepts (Schein and Bennis, 1965). The design

was a mixture of planned exercises illustrating various dynamics of teamwork, group behavior, helping processes, etc.; informational input sessions on specific subjects, such as group observation, feedback, helping processes, inter-group conflicts, etc., which were usually related to experiences the participants were having in the exercises; and free agenda sessions where we all discussed what was happening in the workshop itself and applied these observations to our topics. In other words, we used two sources of live experience, the planned exercises, and the inevitable process of the workshop itself, which was always providing experiences for staff and participants alike.

The workshop shifted its emphasis over the course of the four days. The flow was roughly as follows: (1) The problems, consequences, and dynamics of team process; (2) Interpersonal processes and the observational skills needed to recognize them; (3) Larger system behaviors, including inter-group conflicts; (4) Change processes and the role of the change stimulator (including helping processes); (5) The changing role of the professional designer, and the implications of such change for the life planning of the participants (including suggestions for the process of life planning itself); (6) Next steps in the educational process, planning for future work in the behavioral area.

Since the workshop took place in the Independent Activity Period, attendance was totally voluntary. Nine people (all male) showed up for the first session, and stayed with the program throughout the four days. There were five students from the Urban Studies side of the School and four from Architecture.

The workshop was held in one carpeted room (approx. 25' by 50'), large enough to allow three sub-groups to meet for various exercises without

interfering with each other. Most of the products generated by the workshop, such as newsprint paper with input session outlines or representations of diagnostic exercises done in sub-groups, were taped to the walls, so there was a visible history of our activities as the workshop progressed.

Perhaps the best way to fill out the picture of the nature of the workshop is simply to provide an outline of the various activities that occurred. The program went as follows:

Monday Morning:

- 1-Introduction, orientation, overview of time flow (Schein, Steele);
- 2-The NASA decision-making exercise:
 - Individual work
 - Group decision
 - Scoring of answers and discussion of process

Afternoon:

- 1-Input: "What to Observe in Groups" (Schein)
- 2-Group observation exercise (fishbowl: sub-group meets, other sub-group observes and feeds back)
- 3-Discussion of total exercise

Evening:

- 1-Input on "Giving Effective Feedback" (Steele)
- 2-Feedback practice exercise and discussion

Tuesday Morning

- 1-Free group discussion
- 2-Input on "Group Norms" (Steele)
- 3-Exercise on group norms
 - Generate list of our (workshop) norms
 - Differentiate helpful/non-helpful norms
 - Describe "healthy" group and where we want to change

Afternoon:

- 1-Input, "The Helping Relationship" (Plovnick)
- 2-Helping Exercise
 - Trios (helper, receiver, observer) work on problems

- Total group discussion of helpful and non-helpful behaviors
- Two more rounds of helping practice, so that each member of trio plays all three roles

Evening:

Free Time

Wednesday Morning:

- 1-Input, "Force-Field Diagnosis" and "Planned Change" (Plovnick, Steele)
- 2-Exercise, two groups do force-field diagnosis of workshop effect on attempts to lead the group
- 3-Sharing of diagrams and discussion

Afternoon:

- 1-Input, "Systems and Intergroup Phenomena" (including discussion of examples from morning's exercise: Steele)
- 2-System diagnosis exercise: Architecture and Urban sub-groups each draw the school system from their point of view
- 3-Share and discuss implications of the drawings

Evening:

- 1-Generate professional identity issues for Thursday morning
- 2-Free group discussion

Thursday Morning:

- 1-Input and discussion, "Architecture and planning--the future and the roles" (Schein)
- 2-Participants' discussion of identity issues in design

Afternoon:

- 1-Input, "Interpersonal Values of the Laboratory Method" (Steele)
- 2-Discussion of loose ends, future plans
 - Access to behavioral science resources at M.I.T.
 - Life planning exercises (described)
 - Evaluation of the workshop

Our basic assumption in designing the program was that people learn in a more lasting manner about behavior when they are able to connect their own experiences with generalizations. Our design attempted to have generalization, processing, etc. close to live events which illustrated the concepts.

To this end, we were very explicit in the orientation session about the laboratory method of learning, the use of exercises and inputs, and the legitimacy (and valuing) of process observations and reactions to the workshop itself. We tried to be clear that participants' reactions to various experiences were not irrelevant (as they are felt to be in most traditional classroom situations), but an important part of the content of the workshop.

Impressions of the Dynamics of the Process

Following the introductions and objective-setting we plunged into the NASA decision-making exercise, which we hoped would answer the question: (experientially) "Why do we need to study group process, anyway?" It was soon apparent from the results of the decision and a discussion of people's feelings and reactions that (1) there were good reasons for people to work in groups and (2) there was plenty of room for improvement in the way people functioned in this group.

Enthusiasm was high as we moved into a lecture input on "What to Observe in Groups", and ran higher as people found they were able to relate the conceptual inputs to their experiences, filling the air with "Aha's!". This set the stage for the next two sessions which called for experimentation in observing group behavior and giving and receiving effective feedback.

The process described for this first day, alternating conceptual and experiential inputs, was repeated in the days that followed. As we moved from group processes to the dynamics of helping and change, and from focusing on our own small group to diagnosing the School of Architecture and Planning and the professions themselves, the students maintained

their high level of enthusiasm and involvement. The experiences and inputs seemed to flow together well. Each session built on knowledge, skills, and attitudes developed in previous sessions, while the structure varied with respect to experiential-conceptual inputs, individual-small group-large group activities, and programmed-unprogrammed time. For example, the force-field exercise and sharing on Wednesday morning became an inter-group competition, and the behaviors in this period were used as examples for the afternoon's input on inter-group conflicts. Then another task was done with different group composition (by course area), and some of the same dynamics were observed and reported, thus bringing home the notion that knowing about problems does not immediately eliminate them. The whole sequence worked quite well.

Tie-ins became more delicate as we moved to larger systems and to discussions of the nature of the school itself. Experiences there became harder to program as exercises, and we used more reports from people of experiences in the system, images of the way things work, and so on. These modes were adequate, but some sharpening of design should be done to help later stages of the workshop be more forceful.

Evaluation

As is evident from the activities described, the central focus was one of fostering an appreciation for and understanding of interpersonal and change dynamics in professional practice. This was done with an eye towards increasing participants' ability and desire to 1) work on professional teams, 2) consider appropriate new directions for the architecture/planning professions, and 3) begin to consider the implication of these changes for the participants' own careers.

Traditionally, members of the environmental design professions have not become involved in activities that required them to look openly at their own behavior. This is true, we suspect, because (a) they are unaware of the impact that ineffective human relations have on the outcome of a task, and (b) they are uncomfortable with forces which are so unspecifiable and vague when compared with sites, materials, and building programs. The workshop helped to bring home both the relevance of behavioral science to the designer and the possibility of concrete, meaningful guidelines about effective team behavior.

The workshop also provided a setting in which individuals could experiment with behaviors that they had not risked before, such as giving and receiving on-line feedback with colleagues. Several participants tried new behaviors and sought reactions to them. The group was generally responsive and willing to support a person's attempts to explore unused aspects of himself.

A standard course evaluation sheet filled out by the students immediately after the workshop provided some specific data as to how effective the program had been. Two evaluation questions dealt with the organization of the workshop while the third asked for an open-ended evaluation. The responses were unanimously highly favorable, and generally reflected success in achieving the specific goals referred to. Some quotes may highlight these outcomes:

"...Extremely relevant to me personally and professionally at this time. Has allowed me to understand a number of school-related problems."
"Also want to find ways of structurally affecting Urban Systems Planning and Architecture Departments using the new tools learned..." "Got good insights into professional teams."

The questions related to the workshop's organization revealed a strong preference for the intensive four-day structure as opposed to a less-concentrated semester-long class, and an appreciation (somewhat surprising to us) for the variations in the mode: (experiential-conceptual) and focus (small group-large group and internal-external).

Follow-Up

In the six weeks since the workshop's termination, there have been several examples of continuing commitment to behavioral science education from the workshop participants. Three of the nine participants have enrolled in courses in the Organization Studies Department. Another has enlisted the aid of a behavioral science faculty member in a study of the performance of an interdisciplinary design team working on a community housing project. Still another has organized a group of students and faculty from the architecture school to work on a curriculum change project. He has engaged the services of an Organization Development graduate student as a process consultant to help this team (Schein, 1969). Others have maintained contact with the workshop faculty in seeking other approaches to continuing exposure to behavioral science inputs.

Conclusions

The success of this program was encouraging. Those familiar with the architecture and planning profession are well aware of the trends in those areas toward closer professional-client working relationships and toward greater utilization of planning and design teams. If these trends are to proceed competently, behavioral science inputs seem necessary.

The encouraging results from this program were the breadth and depth of learning achieved in four days' work. We think it demonstrates the feasibility of meeting the behavioral science educational needs of these and other professionals, without necessitating huge inputs of time and expense.

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