


7 Behavior setting analysis of situated learning: The case of newcomers

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Many human actions in everyday life occur in settings where actions are highly constrained and organized. Some years ago I started research on how newcomers adapt to such novel, unfamiliar, and coercive settings: The work was done in libraries and university career planning and placement centers (cf. Fuhrer, 1988, 1989a, 1990b). Questions were asked about the experience and behavior of newcomers to the settings, about the structure and dynamics of settings when invaded by the uninitiated, and about the reconciliation between the novices as individual persons and the settings as extran- dividual systems of activity. These questions are of both practical and theoretical importance: practical, because modern societies expose people to unfamiliar settings very frequently due to technological change, organizational developments, easy migration, and so forth; theoretical because answers to these questions require advancement in our understanding of the regulation of individual or collective actions as part of sociophysical or cultural environments.

A general theme that lies behind the discussion of research in this chapter is that learning (or knowledge acquisition) is inevitably situated. Learning takes place in real-life settings, under real performance requirements on actual individuals, and is vulnerable therefore to social influences that may arise at any time. Both retrospective verbal protocols and data of a behavioral path analysis were gathered (among other data; see Fuhrer, 1989a) from newcomers who learned...
to prepare a job application in a career planning and placement center.

Here is a typical situation: Imagine a freshman who comes into a career planning and placement center to look for a part-time summer job opportunity at a southern Californian public transport company. Here is a verbal protocol that gives some insights into a newcomer’s experiences in dealing with this unfamiliar setting:

(S: 3):

When I walked in, I had no idea how I was supposed to solve this task. I didn’t know too much about the center and how to use it. I was feeling nervous. I looked around the room and went through most of the room. I figured out where everything was. With some experiences from the high school career center, I knew that I needed to write down necessary information about the company. Right away I spotted the job board. I went to the job listings and started looking for OCTD. When I got to the board, I was wondering if the girl standing there was looking for the same job. People were busily working. I felt out of place. Everyone was sitting there and watching me. I was embarrassed when I realized that I had to ask more questions. Then when this was happening and I was going back and forth, I realized that I was the “guinea pig” in this place. I had no clue where the job applications were. But I didn’t want to look stupid asking questions all the time, since other people were watching me. I was embarrassed when I realized that I had to ask more questions. When this was happening and I was going back and forth, I realized that I was the “guinea pig” in this place. I had no clue where the job applications were. But I didn’t want to look stupid asking questions all the time, since other people were busily working. I felt out of place. Everyone was sitting there and watching me, which made me very self-conscious. I felt intimidated by the things around me and didn’t want to be stared at when I didn’t know what to do. Maybe the people in the room were thinking I was stupid. People don’t bother me at all, but I could see how some people could get apprehensive in there. I felt like a running rat in circles in a maze trying to find the cheese that wasn’t there. Again, feeling embarrassed. Mostly, I guess I was anxious about not finding the brochure and probably caused me to be anxious throughout the rest of the task.

At first glance, the verbal protocol indicates that the newcomer’s learning activities are hardly reducible to cognitive processes, but rather learning in real-life settings seems to be influenced by both personal and setting-related components. Moreover, emotions such as social embarrassment and social anxiety seem to be a crucial catalyst in the learning process. Thus, theoretical concepts of both cognitive and social psychology will be used to illuminate the psychological processes of newcomers who try to adapt to unfamiliar settings. But unlike theoretical attempts on learning from cognitive and social psychologists who concentrated heavily on processes within persons, both the settings in which newcomers are embedded and person-setting processes will be much more differentiated in the model proposed in this chapter. The theoretical framework builds upon Barker’s (1968) ecobehavioral science, which I have sought to expand in significant ways.

The career planning and placement center study

Before the theoretical analysis, it might be useful to present the field study in a bit more detail and then to build the conceptual apparatus out of the presentation of this study.

Knowledge through intervention

Although the laboratory has been the setting most frequently used by psychologists to test their hypotheses, it is, especially for environmental psychologists, not the only setting available. The environmental psychologist who moves outside the laboratory to test a hypothesis is basically concerned with increasing the natural quality of the situation: the naturalness of the behavior, the setting, and the treatment. Often the investigator’s role in such a study is simply to observe what occurs, with little or no intervention. However, in the field as in the laboratory, the experimenter has at least some control of both the factors that are arranged by him or her and the random assignment of subjects to conditions. But the investigator who engages in this kind of quasi-experimental research does not have full control over the possible sources of variation. Most environmental psychologists are interested in conducting research in the actual setting that concerns them and in preserving the authenticity of that setting than are psychologists from other areas.

According to Barker (1968), in everyday settings particular individual characteristics of people operating settings are not as important for understanding the structure and dynamics of those settings as their collective actions as components of those settings – that is, people in settings interact with each other as role partners. For studying how newcomers adapt to unfamiliar settings one can replace...
the real staff persons by confederates who operate the setting. By doing this one might change the integrity of at least more routinized settings only slightly. This strategy has the advantage that research is still done in a naturalistic milieu with inhabitants (confederates) maintaining the current state of the setting but operating the setting in a controlled way according to the goals of the researchers. Thus, the setting of the present study is a naturally occurring one, which was not created by the researcher but rather by the society. Unlike Barker and his co-workers’ (1978) naturalistic approach in which settings were kept untouched, as researcher I am interested to understand the setting by changing at least some of its components, that is, in operating the setting in a controlled way. By changing the structure and dynamic of settings in a controlled way, one can see what happens, that is, one will get some new empirical knowledge by intervention.

Handling prior knowledge in the presence of other people

I studied three variables I thought were relevant to understand the newcomers’ learning activities: their prior setting-specific knowledge and the presence of other people in the setting, that is, both the number of people and the kind of actions those people are engaged in. Especially critical for a newcomer is how well his or her planned action, despite the number of people present, fits into the current setting — that is, the ongoing actions of others already present. This fit between others’ actions and the action of a newcomer is hereafter referred to as congruence of subjects’ and others’ actions or goals.

Sixty-four university freshmen who were unfamiliar with the career planning and placement center were recruited as subjects from the social science human subject pool at the University of California, Irvine. Each subject was told that the research was an attempt to understand how people reach particular goals in a realistic setting rather than in a laboratory (see for the details of the procedure Fuhrer, 1989a). The freshmen were confronted with the task of completing the application procedure to a part-time summer office job at the Orange County Transport Division (OCTD). The job was announced on a job listing in the career planning and placement center on the University of California, Irvine, campus. The task consists of 13 action steps (AS) as they were usually mentioned by students, who often used the career planning and placement center (see also Figure 7.1). At first, one enters the placement center (AS1), goes to the particular part-time listing (AS2), and copies the information about the particular job one is looking for (AS3). Then one has to find the company brochure in an alphabetized shelf (AS4) to find out both the company’s phone number (AS5) and the interview date (AS6). Then one has to copy this information (AS7, AS8). Afterward, the brochure has to be returned on the shelf (AS9) and one has to find the application form (AS10). Because only one application form is available, one has to make a copy of the form (AS11) and to return the form to the binder (AS12). Finally, one can leave the room (AS13). With this information a student is in the position to contact the company (a step that was not part of the study).

During a preexperimental session in a room of the social ecology building (2-minutes walking distance to the career planning and placement center), half of the subjects individually learned the order of the action steps. The other half of the subjects had to read a short literature passage and to answer six questions about it. In front of the placement center the subjects were then instructed to obtain the necessary information for preparing the part-time summer job application mentioned already. All subjects were then taken into the placement center and told they could ask questions of the person at the information desk.

Setting-specific prior knowledge (high vs. low; consisting of the 13 action steps) was varied with 2 versus 10 people present in the placement center. Social density (high vs. low) was varied with 2 versus 10 people present in the placement center. Subject-other goal congruence was varied in the following way (see Figure 7.1).

In the high-congruence/high-density condition, the confederates were completing certain action steps of the experimental task. Each confederate stayed in a predefined place within the room and conducted a predefined behavior. In the low-congruence and high-density condition, the confederates in the room were sitting on chairs, three persons around each table. In the low-congruence/low-density condition, the confederate was sitting on the chair that was located...
in the middle of the room. In the high-congruence/low-density condition, the confederate was going through the action steps of the experimental task (along the broken line in Figure 7.1). The confederate always conducted the action step that the subject had to conduct next.

The behavioral path of each subject was recorded on a floor plan by two hidden observers. Right after the subjects had completed the task, retrospective verbal reports were gathered. That is, the subjects had to verbalize their recorded behavioral path by recalling everything they could remember about their thoughts and feelings while going along the path. The subjects' statements were tape-recorded and transcribed later on. The goal of the protocol analyses was to verify (at least partly) the model of the newcomer's learning activities as it will be presented later in this chapter. The protocols were initially divided into units. Typically, a unit was a sentence, but on occasion it was of clause length or a number of sentences. The interrater reliability of segmenting units was in excess of .90. The intercoder reliability of categorizing was .79.

For the analyses of the newcomers' behavioral path within the center, the floor plan of the center was divided in squares with a size of 1 square meter per square (see Figure 7.2). I then distinguished between squares belonging to a central zone encompassing the middle of the room and those belonging to a peripheral zone located along the physical boundaries (e.g., walls, shelves, information desk) of the room. Because architectural features of settings moderate people's behavior and their experiences (Evans, 1979; Fuhrer, 1987), I then counted how often a newcomer had entered a square of the central or one of the peripheral zone while dealing with the unfamiliar setting (see for more details Fuhrer, 1990b).

The results of the analyses of both the verbal protocols and the
behavioral path will be used throughout this chapter to illustrate the line of theorizing to which I turn now.

The paradigms of cognitive control and ecobehavioral coerciveness

Usually, when psychologists study learning activities, they mostly focus on people's cognitive requirements and rarely on the structures and dynamics of the settings in which learning takes part (cf. Rogoff & Lave, 1984). And in looking at both the cognitive and the environmental dimension in the study of situated learning a third dimension comes into the focus of the researcher: the emotional dimension. To some degree, all individual actions within everyday settings, especially those of newcomers, are somewhat discrepant from what is expected; the settings change continuously. Most emotions within social situations, such as embarrassment, audience anxiety, shyness, or shame follow such discrepancies, just because these discrepancies produce visceral arousal. And it is the combination of that arousal with an ongoing evaluative cognition that produces the subjective experience of an emotion (cf. Lazarus & Folkman, 1987).

Thereby, many social scientists have emphasized the role of others' presence in the generation of social embarrassment (e.g., Heider, 1958; Goffman, 1959). Thus, my major interest here is to present a model that integrates all three dimensions. But, first, I am going to review how the debate has usually been cast.

Much attention has been given in recent years to the principle of cybernetic control in action organization. Basically, these theories assume that human actions reflect an ongoing comparison of present behaviors and underlying mental representations against the current situation, and the attempt to bring the one into correspondence with the other (e.g., Miller, Galanter, & Pribram, 1960; Ginsburg, Brenner, & von Cranach, 1985). The view, that individuals' actions are exclusively driven by mental representations, is deeply rooted in the Western human sciences as the correct model of the rational actor (see Suchman, 1987, for a critique of this model).

(S: 60):
When I entered the room, I remembered that the job listings were located on the far

wall. But I was unsure if I was exactly looking at the right place. I felt confused, uneasy, and uncomfortable. But I saw that the resource room was well organized. So, I then started wandering around to scope out the room which guided me to some other listings.

This newcomer's verbal protocol suggests another view. That is, the environment is, itself, organized and coercive and therefore a comprehensive mental representation of the environment is not a sufficient condition of human action. This view characterizes the work done by Barker and his associates (1978). For example, many daily human actions are clustered in a more or less standardized way within certain small-scale places. Barker (1968) named those places behavior settings. When Barker looked at these events, he discovered that they had rather permanent and enduring qualities in terms of repeated behavior, time, place, and physical attributes. That is, behavior settings are small-scale social systems composed of people and physical objects configured in such a way as to carry out a routinized program of actions within specifiable time and place boundaries (Wicker, 1983).

Barker then began experimenting with ways to measure these attributes. The primary scale he came up with was called K-21. The K-21 scale was developed to answer the problem of whether two putative behavior settings are actually separate or constitute a single setting. The K-21 consists of seven subscales (measuring the interdependence in behavior, leadership, inhabitants, physical space, and so on, between pairs of behavior-milieu parts, called synomorphs). A set of synomorphs with k values, inter se, of 20 or less constitutes a single behavior setting; synomorphs with k values of 21 or greater are discrete behavior settings; and scores between 18 and 23 seem to indicate boundary problems. Although most behavior settings such as post offices or school classes are easily identified, it is sometimes difficult to intuit whether, for example, the interlibrary loan desk at a library is a separate behavior setting from the reserve book section.

Research by Barker and his colleagues has shown that behavior settings are important determinants of the molar behavior of children, adolescents, and adults (cf. Barker & Associates, 1978; Schoggen, 1989). The paradigm of ecobehavioral coerciveness, however, tends to be an environmental determinism although Barker (1963) does recognize that people exercise some degrees of freedom in
pursuit of their own goals within behavior settings. In his most recent theoretical discussion of person–environment relationships, Barker (1987) suggests that everyday behavior of persons is shaped by two distinct kinds of factors: those that emanate from the person (e.g., cognitions, motivations, emotions) and those that arise from the ecological environment. Barker has investigated both kinds of influences on everyday behavior, and he has explicitly stated several times that each is important (cf. Barker, 1987). Thus, behavior settings as environmental units might be a possible meeting ground between the paradigms of cognitive control and of ecobehavioral coerciveness in studying newcomers’ learning activities. Up to now, little has been done to combine these efforts (e.g., Lave, Murtaugh, & de la Rocha, 1984; Kruse, 1986; Kaminski, 1986; Fuhrer, 1988, 1990a, 1990b; Schoggen, 1989; Wicker, in press).

Environing schematic actions: The K-21 behavior setting

Behavior settings are parts of communities that are generally recognized by the citizens. These people describe both their daily happenings and their community in terms of behavior settings. Thus, many psychological and behavioral processes in public life domains unfold in the “format” of behavior settings (cf. Schoggen, 1989). In the present study, a newcomer’s verbal protocol gives some empirical evidence for this assumption:

(S:35): I have never been in the career planning and placement center before.

According to the definition of the term behavior settings mentioned previously, a grocery store, a library, or an auction sale are behavior settings, whereas schools or organizations are clusters of behavior settings. Or consider the career planning and placement center as a typical behavior setting. Does the term behavior setting indicate the place where the center is located, the staff person’s behavior, the assembled users, the arrangement of tables, chairs, shelves, and job listings, or the purpose of the gathering? The answer must inevitably be, All of these together and none of these alone. If the computers break down in the career planning and placement center, brochures and books cannot be checked out, students cannot borrow tapes and books. It is the interdependence of all these parts rather than their similarity that makes a behavior setting a unitary entity.

Furthermore, people’s actions within behavior settings are most directly influenced by the setting program (Barker, 1968; Wicker, 1987).

(S: 44): I really didn’t have any idea what’s going on here. I kind of knew what to do, but I just wasn’t sure. There were no guidelines to follow. I wasn’t sure if I was supposed to use the copier. Thus, I had to go back to the information desk to get more information. After a while, I began to understand the logic of the situation.

Thus, many elements of the flow of human actions are “in” or “a part of” behavior settings and take the form of events that are programlike or scriptlike. Such program-bounded routines are the type of activities that Schank and Abelson’s (1977) script theory intended to capture from the perspectives of cognitive psychology, social psychology, and artificial intelligence. In some ways, scripts, cognitive schemata, and the like appear to be rediscoveries of behavior setting programs from a social-cognitive approach (cf. Wicker, 1987).

Understanding the whole to understand its parts

For a better understanding of learning in real-life behavior settings, it will be necessary to pay more attention to the details of those behavior settings. If a newcomer (or a psychologist) wished to understand the action of another user of the career planning and placement center, he or she might set about to observe the interactions of a user with his or her surroundings. To do this he or she might view the user through field glasses, so focused that the user would be centered in the field of the glasses with just enough of the career planning and placement center milieu included to encompass all the user’s contacts with that milieu: reading the job listings, looking at company brochures, taking an application form, and so on. This first attempt represents a person-centered approach to the study of human learning in behavior settings.
The newcomer (and the psychologist as well), however, would learn more about job application procedures by blocking out, at first, the operations of a particular user; then observing the highly stereotyped patterns of behavior around him or her; and finally identifying salient behavioral standards to which he or she must conform. This second attempt represents Barker's ecoligical science approach (cf. Barker & Associates, 1978). Unfortunately, much of the study of people acting in behavior settings has been the structure and the coercive forces of those behavior settings upon individuals, and of the behavioral aspects of these individuals en masse.

The third approach brings the single individual back into the focus of attention. Here, the attempt is to capture both the behavior setting and the individual's actions in one single process. The behavior setting and the individual's actions are not separate elements; rather the behavior setting as the whole is a confluence of inseparable individual and collective actions that depend on one another for their very definition and meaning. The single individual and the behavior setting are in a transactional relationship with each other. The term transactional (e.g., Stokols & Shumaker, 1981; Altman & Rogoff, 1987), for my purposes, emphasizes the idea that the extrapersonal elements of the behavior setting and both the cognitive elements in people's minds and those people's behavior are aspects of a single process, not separate components. Inputs coming from the behavior setting or from the single inhabitant are so intertwined that each contributes to the other and initiates changes in the other (cf. Barker, 1987).

**Behavior settings: Sources of goal opportunities and social forces**

Behavior settings contain opportunities for goals and actions (Barker, 1968). In a particular behavior setting different people may achieve the same goals. For example, in a career planning and placement center different students are looking for job opportunities and they all behave in the same way. Furthermore, different people may achieve a different cluster of goals in the same behavior setting. One student in the career planning and placement center, for example, is looking for advice from a placement counselor, another student may watch a videotape to get help for preparing his job search, and a third student may be involved in a mock interview which will give her an opportunity to see how she presents herself to an employer. The unity of a particular behavior setting, however, does not arise from the similarity in the goals and motives of the participants. Any behavior setting exists only when it provides its participants with the particular goal opportunities their unique nature requires. Otherwise, the behavior setting will cease (see Wicker & King, 1988).

The changes observed in the behavior of people as they change from one behavior setting to another are obvious. Students visiting the career planning and placement center are engaged, for example, in various kinds of job search activities. When they change from the placement center to the restaurant, one can observe a very different conduct. In the restaurant setting they will be engaged in drinking, eating, or talking with classmates. Despite the great variation in the motives, goals, and skills of the persons participating in this behavior setting, the conformity of their behavior to the particular behavior setting is surprising. What are the sources of this conformity? Well, Barker (1968) listed eight possible sources of the synchrony of behavioral standards and the nonpsychological milieu. The two of most interest in this chapter are what Barker (1968) called social forces and what he named as learning.

Social forces indicate one kind of link between people entering into the behavior setting and the standing pattern characteristic of behavior in the particular behavior setting.

(S: 23):
People don't bother me at all but I could see how some people could get apprehensive in there.

These forces imply obligations for setting participants and they can be strongly coercive. The power attaching to the members of behavior settings who occupy responsible positions within those behavior settings, such as the career planning and placement center director, other staff members with immediate authority, or even other users to enforce particular patterns of behavior is well known. For example, if a student enters the career planning and placement center to find a job, his or her behavior is somehow channeled into this behavior setting's specific standing patterns of behavior.

(S: 28):
I kept looking up to see what others were doing. I noticed everybody was writing or copying things down. So, I suspect that they did influence my behavior strongly. I
can't explain how. The task wasn't that hard, but it could have been much harder if there wasn't anyone in the center. The other people's behavior played a significant role in guiding me through the center in an easy way.

Barker (1968) believes that the regulation of behavior settings is meaningfully construed in terms of the principles of cybernetic control (see Figure 7.3). Within behavior settings there are routes to goals that are satisfying to the inhabitants. In a career planning and placement center, for example, there are paths for finding jobs or for getting advice on career planning, but there are no paths to goals like buying newspapers, listening to country music, or ordering pizza. Barker hypothesized that some setting participants, mostly staff persons or frequent users who might be identified by the newcomers as insiders or "old-timers," act as if they have a sensory mechanism (S-MECH) which receives and transmits information about the behavior setting to an executive mechanism (E-MECH), which tests the information against the participants' criteria of adequacy for the behavior setting.

(S: 3): That's where I knew for sure that the man at the desk was looking at me. I then was sent to the full-time listings.

If the perceived events are judged adequate, participants employ operating mechanisms (O-MECH), that is, they continue to show the behavior that conforms to both the goal (G-MECH) and the program (P-MECH) of the behavior setting. If events are judged to be deviant from the behavior setting's main functions, participants will employ maintenance mechanisms (M-MECH) to manage the troubles, that is, to bring about changes to restore the behavior setting to a condition that permits their goals to be pursued. Barker proposed two kinds of maintenance mechanisms: deviation countering (D-MECH), by which inhabitants take steps to counteract or alter the interfering conditions, and vetoing mechanisms (V-MECH), by which inhabitants eliminate the interfering conditions.

(S: 48): I went to the copy machine and I stood there for a while because I wasn't sure how to work it. I read the directions on it and got even more confused. Then I realized I was reading the reloading instructions for paper. I found out it was just a regular copy machine. The first copy came out wrong because I didn't put it right. I was embarrassed. The man came over and helped me out.

If the maintenance mechanisms prove successful, occupants switch to operating mechanisms. If the maintenance mechanisms prove unsuccessful, they continue to employ maintenance mechanisms until the potential threat is corrected. These mechanisms regulate the behavior setting in terms of its goal opportunities for inhabitants,
which, in turn, reduce the variety of inhabitants’ behavioral patterns and maintain it within an acceptable range of standards. Most of the research relevant to Barker’s model has dealt with the ways setting participants interact with inadequate states of functioning (e.g., states of over- or underpopulation; see Wicker, 1983; Schoggen, 1989). Almost no research has been focused on the psychological processes within single setting participants with the notable exception of Willems (1964), Gump and Friesen (1964), and more recent research on the person-level processes of setting founders (Wicker & King, 1987; Wicker, in press).

A multiple-acting model of situated learning

Typically, the newcomers’ learning activities are not totally directed on carrying out the setting programs. They often attain a variety of other goals, such as engaging in various impression management tactics or developing interpersonal relationships to other setting inhabitants. Thus, the newcomers simultaneously pursue several goals and, therefore, they may simultaneously perform different actions. Theoretically, this phenomenon of multiple acting (cf. Fuhrer, 1984) forces us to deal (conceptually) with questions of management and coordinating the various actions that arise from cognitive, social, and environmental demands or goals (cf. Fuhrer, 1990b).

In my presentation of the model of multiple acting, I start with a reflection on the characteristics of psychologically new situations. I then focus on both the cognitive requirements for a newcomer’s actions such as cognitive schemata or scripts and the function of behavior settings which are external or collective resources of “knowledge.” Subsequently, I focus on the social significance of the newcomer’s actions. Through impression management, newcomers attempt to construct and maintain particular images of themselves that they project to others. Building on this framework I can be more specific about the hows and whys of the newcomer’s emotional experiences because these emotions only occur when a newcomer is felt to have projected an incompatible image of himself or herself before those present.

The nature of new psychological situations

What is the nature of new psychological situations, and what kinds of behavior do they evoke? In answering these questions I refer to an early paper of Barker, Wright, Meyerson, and Gonick (1953), to research on group socialization (e.g., Moreland & Levine, 1987), and to work on organizational socialization (e.g., Louis, 1980; VanMaanen, 1984). In an unfamiliar behavior setting, at least seven situations are possible.

First, the newcomer does not know the sequences of actions that will result in the desired goal (e.g., to get the job application done).

(S: 2):  
As I entered the center, my mind was blank and I didn’t know what to do.

Second, some newcomers bring to their mind experiences of some corresponding activities in one or more similar behavior settings.

(S: 3):  
With some experience from the high school career center, I knew that I needed to write down necessary information about the company.

Third, each act may place the newcomer closer to the goal or move him or her further away from the goal.

(S: 24):  
I could see where the job listings were so I walked in that direction, but I wasn’t sure how they were arranged so I was a little wary.

Fourth, the newcomer’s senses are simultaneously inundated with many unfamiliar cues of the particular behavior setting.

(S: 51):  
I can see that there are many job listings on it and it would take a lot of time to look throughout the wall. I was confused about all this information.

Fifth, the newcomer is self-conscious and therefore he or she is socially sensitive to the impression he or she is making upon others.

(S: 47):  
I was very conscious of what I was doing because everybody was watching me and I didn’t want to mess up.

Sixth, the newcomer avoids the danger of being regarded as a non-member of the particular behavior setting.
I didn’t want to look stupid wandering around when others were busily working. I felt totally out of place. I then tried to do what others were doing.

Seventh, the newcomer’s performance deficiencies cause a set of emotional reactions, such as embarrassment and social anxiety.

I didn’t know what to do next and felt nervous and embarrassed.

Prefabricated schemata versus activity in behavior settings

Several researchers have recently asserted the usefulness of schema concepts, such as action schemata or scripts, as cognitive representations of behavior settings, particularly of setting programs (e.g., Kruse, 1986; Wicker, 1987, in press; Schoggen, 1989; Fuhrer, 1990b). Action schemata play a double role in behavior settings: There are (1) action schemata as understanding structures, that is, schemata for understanding the behavior setting’s standing patterns of behavior; and (2) action schemata as behavioral structures, that is, schemata that guide people in participating in those behavior settings. Schemata as understanding structures guide the interpretation of a given behavior setting in which one is participating. For example, bringing back a particular schema to mind may help the newcomer make sense of what goes on in the behavior setting in which he or she participates. Schemata as behavioral structures should enable the individual to participate in behavior settings. The newcomer’s current schemata, however, are not just played out in the course of participation in the behavior setting. According to Suchman (1987), newcomers might act on an ad hoc basis, and schemata are used as internal resources of knowledge for actions-in-behavior settings, but do not in any strong sense determine its course.

I thought everything was clear in my mind about what to do when I got to the part-time listing. But when I couldn’t find what I was looking for, I felt a little lost. I just followed a random path that led me to some brochures. Although I realized that the information I learned in the first part was to be utilized in my task-solving quest. But I was disoriented and couldn’t solve the task the way I thought.

Newcomers often abandon their schemata and fall back on whatever embodied skills are available to them (see also the case of beginning skiers; Fuhrer, 1984). Thus, newcomers’ actions are improvised insofar as they are designed to cope with surprise, uncertainties, and unforeseeable contingencies of their actions (e.g., Louis, 1980; Suchman, 1987).

Behavior settings: Sociophysical and temporal systems of externalized or collective knowledge

Behavior settings are middle-sized ecological units through which sociophysical and temporal influences are experienced and which people need as orientating contexts (Kaminski, 1986) or as external or collective resources of knowledge (Fuhrer, 1990b). Behavior settings represent “traces” of individual or collective actions or organizational processes. This conceptualization of settings is familiar with the idea of places as external memories of personal or collective experiences (Lang, 1992). Unlike internal knowledge structures as they are represented in the form of cognitive schemata, external knowledge is collective because more than one individual has access to them. Moreover, collective resources of knowledge might be distributed among several setting participants (see Hutchins, this volume) and might be available from instructional material as well, whereas in other behavior settings the knowledge is not distributed but is available from one particular member. In this chapter, I focus on the newcomer’s use of one particular collective resource of knowledge, that is, the competence of other participants in the setting.

Behavior settings consist, in part, of standing patterns of behavior. These standards of the behavior settings’ appropriate behaviors are important means in guiding the newcomer’s actions. The other setting participants’ competence facilitates the newcomer’s goal attainment in at least two ways: First, setting participants occupying responsible positions usually know the setting program. Therefore, by asking them, one could get them to externalize their schematic knowledge about how the behavior setting operates.

I began to use the best resource of all – the man at the information desk.

Second, other setting participants enacting ordered sequences of actions with standing patterns of behavior know at least certain parts of the behavior setting’s entire program. Thus, newcomers might
observe their expressive behavior — that is, try to make sense out of each others’ action and try to understand the cognitive schemata in those others’ minds.

(S: 28):
I kept looking up to see what others were doing.

_The social significance of situated learning_

Many social psychological and social anthropological theories assume that people are highly sensitive to the social significance of their conduct (e.g., Festinger, 1954; Goffman, 1959; Latane, 1980) and are motivated to create desired impressions on others. From this view, all behavior settings are potentially threatening for newcomers. Other setting members may focus their attention on the newcomer and the newcomer will be alert to every cue. All of these things may increase the newcomer’s level of self-consciousness, that is, the sensitivity to the impression one is making upon others. What matters most to the newcomer is not how he or she views his or her own behavior and its consequences, but rather how others view them. The newcomer must determine the extent to which those others evaluate his or her action as a reasonable action “as part of” the particular behavior setting. Thereby, an important feature is the preexisting knowledge and expectations that those setting participants who are present have about the newcomer. Because other setting participants will interpret the newcomer’s behavior in relation to what they already know and expect of him or her (Heider, 1958), it seems likely that a newcomer will normally consider this attributed knowledge when formulating impression management tactics or goals.

(S: 3):
Everyone was sitting there watching me, which made me very self-conscious. Maybe the people in the room were thinking I was stupid. But I didn’t want to look stupid.

What is relevant here for learning is that the newcomer will take some goals or actions in the course of learning to conceal his or her identity and to avoid or lessen negative impressions or to enhance positive impressions.

(S: 23):
I saw the other people and I knew what they were thinking about me. I felt like a real idiot.

_Behavior setting analysis_

Thus, a _favorable impression_ is defined here in terms of the degree to which a newcomer’s actions correspond to the action opportunities of the behavior setting. In relatively routinized situations, social actions proceed without extensive thought about impression management (e.g., Schlenker & Leary, 1982). Newcomers, however, confronted with unfamiliar behavior settings causing puzzlement about how to behave will be more alert in managing the impression they make on others than insiders or “old-timers” among themselves might be.

According to more recent theoretical and empirical work on impression management or self-presentation (cf. Jones & Pittman, 1982; Tedeschi, Lindskold, & Rosenfeld, 1985), it is proposed that there exist both _protective or defensive tactics_, such as concealment, excuses, or self-handicapping that derive from presenters’ concerns over engendering disapproval and loss of face rather than from concerns over garnering approval and _acquisitive or assertive tactics_, such as self-enhancement, ingratiation, intimidation, self-promotion, or supplication. These tactics should not be considered as either exhaustive or mutually exclusive, but should be taken merely as a classification that may be useful for the modest goal of dealing with some of the nuances of tactical presentations in situated learning (e.g., Fuhrer, 1989b).

For example, if the newcomer’s prior interest is to conceal his or her identity and competence then he or she attempts to “pass through the setting” undetected. For example, newcomers with this impression management goal try to get into the setting and out of the setting as quickly as possible. These newcomers attempt to cover up their competence or try not to be recognized as an outsider among insiders.

(S: 2):
While there, all I thought about was how I could get out as fast as possible. But I didn’t really understand what was going on in the center.

Those who pursue this tactic are not primarily motivated to learn how to reach the task-related goal, that is, to elaborate their cognitive schemata; rather they enter the situation with more socially oriented goals, such as concealment and dissimulation. Newcomers with these social goals in mind are involved in some kind of nonlearning activities. There is a body of research that points out that many people enter
daily settings with such goals (e.g., Garfinkel, 1963; Edgerton, 1967; Mehan & Rueda, 1986).

(S: 47):
I felt funny because I knew I was being watched. But I tried to look as competent as possible. I then tried to escape the attention of the other people and to pass through the task undetected.

Newcomers, however, who are motivated to reach the goal of applying to the particular part-time summer job are engaged in task-related information-seeking activities, such as imitating others or asking questions of knowledgeable setting participants. Some of these newcomers will use less embarrassing modes of information seeking than others. Whether a certain mode of information seeking is embarrassing depends on its appropriateness in the present behavior setting. For example, if no one asks questions, then question asking might be more embarrassing than observing others or reading written instructions.

(S: 8):
I felt embarrassed when I approached the information desk since nobody else was asking questions.

Because newcomers acquire more and more knowledge during the course of learning in the behavior setting, there might be changes in their impression management tactics.

(S: 47):
I felt embarrassed and uncomfortable, at first, because everybody was watching me and I didn't want to mess up. But once I started finding things, I gained confidence and forgot about the people watching me.

Situated learning as coping with social embarrassment

I take this section to illustrate how the proposed multiple-acting model of situated learning is used in practice. Basically, the present model proposes that newcomers attempt to cover up their ineptness because of the embarrassment that they are likely to experience. Embarrassment is produced by (1) the presence of others; (2) the awareness that their attention is directed toward oneself; (3) the apprehension about how one supposes others see him or her; and (4) a publicly visible deficient performance (Heider, 1958). Those deficiencies are exactly what characterizes newcomers. Situated learning goes hand in hand with the psychological effects of these deficiencies, such as embarrassment and social anxiety.

The behavior settings may guide, at least in part, the newcomer's learning activities by providing both collective resources of knowledge and certain physical components (e.g., appropriate furniture, signs, brochures with instructions). All of these resources of knowledge can be important means for coping with embarrassment. For example, rooms can be designed to enhance or to inhibit interpersonal distancing behaviors (e.g., by room barriers or furniture groupings that provide, to varying degrees, some privacy; cf. Evans, 1979). Because the conception of behavior settings includes physical, social, and behavioral components, it allows a comprehensive analysis of situated learning.

In the proposed model (see Figure 7.4), the behavior setting’s control unit as described by Barker (see Figure 7.4) is considered
only insofar as it provides inputs to the single individual's control unit and as it receives outputs from the individual's control unit. To describe the model in more detail, I start with a first paragraph of the verbal protocol that was presented at the beginning of this chapter.

(S: 3):
When I walked in I had no idea I was supposed to solve this task. I didn't know too much about the center and how to use it. I was feeling nervous. I looked around the room and went through most of the room. I figured out where everything was. With some experiences from the high school career center, I knew that I needed to write down necessary information about the company. Right away I spotted the job listings. I went to the job listings and started looking for OCTD.

Newcomers entering behavior settings act to direct perceptual explorations that sense and transmit information about behavior settings based on cognitive schemata. For example, if the job application schema is activated in memory, this may thereby become available for use as an internal or cognitive resource of knowledge for a discrepancy-reducing feedback model. The newcomer senses and reconstructs the behavior of one or more inhabitants of the behavior setting.

(S: 3):
When I got to the board, I was wondering if the girl standing there was looking for the same job. So I kept looking up to see what she was doing. Finally, I thought she was doing another task. It took me a while to find the listing and I was wondering if I was looking in the wrong place.

The uncertainties in the newcomer's expressive behavior often make him or her highly salient to the rest of the people present, although some of them are trying to pass through the setting undetected.

(S: 3):
I didn't know what to do next and felt embarrassed when I approached the information desk. I asked the guy at the desk what to do. I felt very stressful because I knew other people were watching me.

The fact that other people in the behavior setting often focus their attention on the newcomer increases his or her level of self-attention (Carver & Scheier, 1981), and impression management concerns arising from that increased self-attention are likely to occur to cope with social embarrassment. The newcomer must make attributions about the kinds of attributions others are making about him or her (Heider, 1958). Thus, the newcomer should first notice, perceive, and interpret others' behavior, and then note discrepancies between his or her action performance and performance ideals and should be motivated to reduce those discrepancies.

(S: 3):
I was embarrassed when I realized that I had to ask more questions. Then when this was happening and I was going back forth, I realized that I was the “guinea pig” in this place. I had no clue where the job applications were. But I didn't want to look stupid asking questions all the time, since other people were busily working. I felt out of place. Everyone was sitting there watching me, which made me self-conscious. Maybe the people in the room were thinking I was stupid. I felt intimidated by the things around me and didn't want to be stared at when I didn't know what to do. People don't bother me at all, but I could see how some people could get apprehensive in there.

Social forces operating through the behavior setting's operating and maintenance mechanisms and mediated by self-attention processes provide inputs to the newcomer's cognitive control unit.

As also shown in Figure 7.4, the activated cognitive schema then operates as a recognition device whose processing is aimed at testing the schema against the behavior setting's behavioral standards. If a person is familiar with the behavior setting, then he or she seems to act in a loosely preprogrammed, sometimes even mindless way. Newcomers who experience a behavioral standard as discrepant from their cognitive schemata may be surprised or even interrupted in their ongoing actions (cf. Louis, 1980), which causes emotional arousal, such as embarrassment and social anxiety (cf. Edelmann, 1987). These discrepancies trigger the newcomers who actively seek information to make sense of what is going on, to revise the activated cognitive schema, and to plan the action accordingly. Sense making is based on observing the distinctive features of actions of others and by inferring from their expressive behavior the underlying cognitive schema by which their behavior is guided or by asking questions to knowledgeable setting participants to externalize someone else's cognitive schema (cf. Fuhrer, 1990b). The behavior of models not only functions as prompts for similar actions, it also draws the newcomer's attention to the particular objects or places that
others favored. Once the newcomer comes to understand the situation – that is, when his or her cognitive schema is appropriately updated – the behavior is matched to the behavior setting’s behavioral standard.

The verbal data analyses, for example, indicate that low-prior-knowledge newcomers are more engaged in discrepancy-reducing efforts than high-prior-knowledge newcomers. Moreover, low-prior-knowledge newcomers are more engaged in impression management than high-prior-knowledge newcomers. Prior knowledge obviously made these newcomers more resistant to embarrassment in the presence of others than low-prior-knowledge newcomers. Concerns for impression management are particularly likely to occur (1) when low-prior-knowledge newcomers feel crowded, (2) when others’ behavior is interpreted as highly evaluative (i.e., when the confederates are just sitting around the tables), and (3) when the confederate is moving through the sequence of action steps in a professional manner. Information seeking with lower concerns for impression management is particularly likely to occur (1) when the number of confederates is small, (2) when others’ presence is interpreted as nonevaluative (i.e., when they are involved in the relevant task), and (3) when those others are seen as incompetent relative to the newcomer.

However, newcomers often encounter obstacles in their attempts to attain goals. Some of these obstacles can be dealt with by continuing both sense making and schema updating, but others constitute sufficient impediments that they render further attempts useless.

(S: 3): I felt like a running rat in circles in a maze trying to find the cheese that wasn’t there. Again, feeling embarrassed. Mostly, I guess I was anxious about not finding the brochure and probably caused me to be anxious throughout the rest of the task.

In response to this basic issue, I have assumed the existence of an evaluation process. This evaluation is induced when the current cognitive schema is discrepant from the behavior setting’s behavioral standards and, therefore, action is interrupted by such events as useless efforts on the task causing embarrassment. This evaluation process then influences both the goal of elaborating the cognitive schema and the socially oriented goals of impression management and prompts two subsequent behavioral responses for coping with embarrassment. In the first response, the newcomer returns to further information seeking to match his or her behavior to salient standards and to efforts at discrepancy reduction. These attempts are basically motivated by reaching the task-related goal. In the second response, the newcomer is more socially motivated, that is, attempts to cover up his or her incompetence. The newcomer who then infers that he or she appears inept will become embarrassed and socially anxious, which is associated with the tendency to withdraw from any further attempts to reach the goal. Newcomers either disappear, that is, withdraw physically or, when task-specific or situational constraints prevent overt disengagement, withdraw mentally. This may be reflected in task-irrelevant rumination, a decrease in social interaction, or the like. The results of the verbal data analyses indicate that low-prior-knowledge newcomers showed more mental withdrawal than did high-prior-knowledge newcomers. I assume that these newcomers relied more on observing how others completed the task, which seems to be a less embarrassing way of information seeking (see Wicker, 1983).

The behavioral path analyses showed that crowded newcomers are more often found in peripheral squares than uncrowded newcomers. Moreover, newcomers in the presence of others doing another task went more frequently into the peripheral zone and less often into the central zone than did newcomers who dealt with the behavior setting in the presence of congruent others. This effect was most significant for crowded newcomers. These results are in accord with studies by environmental psychologists (e.g., Evans, 1979), which indicate that placement of activities along a wall helps in coping with crowding. On the one hand, by staying in the peripheral zone one can look at the wall and there a newcomer can reduce eye contact with the other people in the room. On the other hand, the visual stimuli within peripheral zones provide an opportunity for newcomers to engage in alternative nonsocially interactive behaviors (e.g., scanning pictures and job listings) not considered inappropriate by others present. These data indicate how physical and social features of the behavior setting interact and how they mediate, for example, perceived crowding. Crowding then affects embarrassment, which, in turn, has an impact on learning. Basically, these emotions can be taken as indica-
tors of the degree of fit between the newcomer’s cognitive schemata and the behavior setting’s behavioral standard.

(S: 29):
I stopped in front of the bulletin board looking for the job listing. I couldn’t see one, which made me nervous and anxious. I felt totally lost.

Emotions may then determine coping responses to which newcomers switch after the evaluation process. Emotions may switch coping responses either to processes that lead to task-oriented goals of information seeking or – in case of frustration, resignation, and embarrassment – to more socially motivated goals of impression management, such as concealment or even withdrawal. Thus, the present model attempts that situated learning is mainly characterized by building up a cognitive schema of the present behavior-setting program under impression management concerns.

The proposed model is certainly expandable to interpret both actions in behavior settings with multiple or even conflicting standards and actions of individuals who try to deviate from the salient behavioral standards. Newcomers who have to adapt to a behavior setting with multiple standards require multiple cognitive schemata, which have to be updated accordingly. Dealing with conflicting standards might lead to more extensive and repetitive efforts to regulate the most significant domains of the accepted public image, whereas deviants may try to match their behavioral patterns that are different from the accepted salient standards, which, in turn, will activate behavior setting’s maintenance mechanisms. Moreover, deviants can sometimes be handled successfully when the responsible setting members change somehow the behavioral standards of the behavior setting and, therefore, tolerate a certain degree of deviance. Thus, the newcomers’ actions do not leave the present behavior setting unaffected. Both their individual characteristics and the patterns of their interactions with other inhabitants lead newcomers to construct their own meanings and develop their own styles of carrying out setting programs (e.g., Wicker, 1987; Fuhrer, 1990a).

The proposed multiple-acting model of situated learning raises several important questions for future research, including the following: (1) What personal and setting-related factors affect the salience of newcomers’ goals? (2) How might a group of newcomers adapt to a novel behavior setting? (3) What are the architectural features that may funnel the newcomers through behavior settings? (4) Under what conditions do newcomers prefer more offensive than defensive impression management tactics? Also, it seems reasonable to assume that newcomer is a relative term. For example, when behavior settings are designed “newcomer friendly,” then first-time users do not necessarily look like newcomers, whereas behavior settings that are designed “newcomer unfriendly” put many people into the position of newcomers despite their past experiences with settings of the same type.

Concluding remarks

When I put together all these themes, questions can be raised about transactions between a behavior setting’s control unit operating through one or more inhabitants’ and a single individual’s control unit. It has been argued that the primary link between behavior settings and learning activities is via the newcomers’ cognitions of the relation between the various goals and the routes the behavior setting provides. Moreover, situated learning is based, at least in part, on a newcomer’s knowledge of the setting program, and it is secured by the behavior setting as the immediate environment. The present model attempts to illuminate the fact that situated learning can be understood as the elaboration of cognitive schemata under impression management concerns and, therefore, situated learning is a consequence of successful coping with embarrassment by using both cognitive means and sociophysical means of the particular behavior setting. Thereby, the model makes it possible to “locate” the production of not learning in complex transactional relations among people in real-life encounters.

In closing, I want to reiterate the major points proposed earlier: Looking at newcomers coping with real-life behavior settings demonstrates that situated learning is the joint product of processing cognitive, social, emotional, and environmental goals. Neither cognitive, nor social, nor emotional, nor ecobehavioral models per se would adequately explain situated learning. Instead, situated learning must be viewed as the coordination of multiple actions or goals. The enforced attention to person–environment systems in understanding
situated learning will be costly (theoretically and empirically as well), but ultimately it will benefit us all. Whether or not behavior settings prove to be a fruitful approach to the study of situated learning, they serve at least to test Barker’s and his co-workers’ unique approach to it and to emphasize the crucial importance of the supra- or extraindividual environment as organized in meaningfully regulated environmental units.

Note

1. Environmental psychology is the study of transactions between individuals or groups and their physical, i.e., their built and natural environment (cf. Fuhrer, 1983). The term ecosocial behavior is used by Barker and Associates (1978) to refer to “extra-individual studies,” i.e., for work with behavior settings. Barker recognized the need for an ecobehavioral science, independent of psychology, which would make field studies of a wider range of phenomena and adapt methods from other social sciences.

References


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