

Results and Discussion

Results indicated that although the majority of subjects reported no problems with wayfinding and orientation in campus buildings, 9% of respondents reported becoming lost often or almost always, 14% have been quite or totally lost, and 8% have experienced frequent and severe disorientation. In one building, almost 40% of users reported having become quite or totally lost.

Comparisons between reported familiarity and wayfinding revealed significant relationships for only half the buildings in question, and in none of these did familiarity account for more than 25% of the variance in wayfinding behavior. In some of the sample buildings, those who reported becoming lost often also reported high levels of familiarity with those buildings. One possible explanation for this unexpected result is that increased familiarity and frequent usage offer more opportunities to become lost.

A significant correlation was found between judged simplicity of floor plans and frequency of disorientation. The plan configurations that were rated high on judged simplicity were the simplified floor plans of buildings that were rated low on disorientation. Simplicity judgments of floor plans accounted for 56% of the variance in reported disorientation.

Because of the strong relationship between floor plan configuration ratings and reports of disorientation, such tests may prove to be predictive of wayfinding behavior. By obtaining simplicity judgments of floor plans as a part of either preconstruction or postoccupancy evaluation, some wayfinding difficulties may be anticipated and thus reduced or eliminated.

“Wayfinding in Hospitals: Solving the Maze”

J. Carpman (1986)
Society of Environmental Graphics Designers
Annual Conference

Summarized by Sherri Lankford
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Introduction

The layout of a medical facility is sometimes not unlike that of a maze, with many turns and few points of reference. Architects and administrators who usually have the final word on the design of hospitals often fail to appreciate the needs of the patients and their visitors. Patient rooms often lack privacy and the sufficient quiet and darkness necessary for rest. Visitors are often ignored, placed in crowded, uncomfortable waiting areas, denying themselves basic comforts in fear of placing unnecessary demands on hospital staff. In addition to the tendency of the user to be forgotten in the planning of a building is the fact that the buildings of most

medical facilities are not all built at the same time. New buildings and wings are added on to existing facilities, creating incongruence in the overall layout. For instance, floors may not align: a patient may enter a catwalk from the fourth floor of one building only to arrive on the fifth floor of another. A lack of signs or ones too small to notice, unfamiliar medical jargon, and illogical placements of services only add to the confusion and stress of the visit. As a matter of fact, in this study wayfinding was revealed to be “one of the greatest sources of stress” associated with the hospital for both patients and visitors alike. The purpose of this series of 33 studies was to assist in the design development of new facilities geared more toward patient and visitor needs in order to alleviate some of the stress inherent in a hospital visit. The studies were conducted at the University of Michigan Medical Center, where over 3200 patients and 1200 staff members participated in interviews, observations, surveys, and experiments spanning over a five-year period.

Results

Identified as a result of these studies are “four basic design related needs of patients and visitors in health care facilities”:

1. Wayfinding, which includes everything from finding the hospital, parking, and entrance, to finding laboratories and restrooms;
2. Physical comfort, which includes aspects of a hospital stay such as noise levels, lighting levels, and comfort of furnishings;
3. Social contact, which includes the level of privacy offered and the ability of the patient to control it; and
4. Symbolic meaning, which refers to the messages that hospital design sends to patients and visitors about their importance to the facility.

The extensive studies also revealed some typical wayfinding problems associated with health care facilities:

Terminology

The average educational level of a patient at the University of Michigan Medical Center proved to be high school or below. Considering most patients' unfamiliarity with medical terminology, similar-sounding words like neurology and urology may be confused, leading the patient to ask for the wrong information or to make the wrong decision at a choice point; the patient may inadvertently end up in a remote section of the hospital, far from the original destination.

Location names

Entrances to rooms often display more than one sign, sometimes saying the same thing, sometimes not: “It could be that the sign next to the door says visitor lounge, and the sign above the door says family room.”

3. Identification signs

Even when signs are helpful in pointing patients in the right direction, it is often the case that the patient does not realize when the destination has been reached, due to lack of identification signs.

Other observations from this study are that the staff is ineffective in giving useful directions to patients and visitors, and that color coding is an ineffective wayfinding device if not used consistently.

Carpman suggests design elements to help visitors in wayfinding. For example, the layout of the building will have an effect on wayfinding. Another suggestion is that designers make use of landmarks which provide opportunities to display artwork and form attractive cues to patient and visitor location within the building.

“Factors that Enhance Effectiveness of Visitor Maps”

J. F. Talbot, R. Kaplan, R. E. Kuo, & S. Kaplan (1993)
Environment and Behavior, 25 (3), 743-760.

Summarized by Amy Cota
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Introduction

Wayfinding is an important aspect in a museum visit. The quality of the visitor experience can be altered dramatically based solely on the museum's use of effective wayfinding aids. This is why the museum should consider carefully the planning of useful visitor maps.

“Visitor maps are characteristically a rich source of information, but the very richness often gets in the way of communicating the basic intent of the map.” Museum staff may have no problems understanding these maps, but it is the visitor who finds these information-rich maps confusing. The authors suggest simplifying visitor maps to solve the problem. Three profound advantages result from simplification: (1) “One can take in more without being overwhelmed; (2) One can achieve a hierarchical perspective, or see the bigger picture; and (3) One can make transformations of the material, or manipulate it, to meet a variety of needs.”

This research took the theoretically grounded principles on handout maps and focused on the essential role of simplicity. Extensions to the theory were made:

- (1) Novice visitors are overwhelmed by large amounts of information. It is essential to minimize the amount of information and the degree of detail.
- (2) Minimize the amount of mental processing required to understand the map; immediate comprehension is important.

- (3) Handout maps need to facilitate comprehension of spatial relationships. Basic information should be the easiest to find.

The Studies

There were two phases to this study. Phase 1, Study 1 involved an entry survey and visitor use of one of three maps (upper floor only) which the visitor rated. In Phase 1, Study 2, the visitor picked one of three maps (same as Phase 1, Study 1) and was given specific map tasks (locating specific destinations or drawing a route to the parking lot on the handout map). In Phase 2, Study 1, visitors were given an entry survey and rated one of two maps (both floors of museum). In Phase 2, Study 2, visitors were given an exit survey and rated one of two maps (same as Phase 2, Study 1). Phase 1 included 148 visitors and 37 workers (security staff and information desk volunteers) and Phase 2 had over 500 visitor participants.

The five different maps that were used had some features in common. Shading was used to communicate that a common theme linked the works in adjacent galleries. Maps that were directly compared were of the same size and used identical labels to identify the collections. In addition, nonessential architectural details were omitted, office names were dropped and labels for areas were placed directly on those spaces rather than in a separate list on the side.

Results and Discussion

Reaction to the simplified maps was positive. Some participants commented that the lack of detail was an advantage. The results of the rating scales used in the survey (5-point scale, 5 = very much) revealed that participants rated the maps as being “interesting,” “understandable,” and “informative” (the mean range between each study 3.7 and 4.0) and as being not at all “confusing,” “overwhelming,” or “hard to follow” (means 1.5 - 1.7). Participants also rated that the test maps gave a good sense of where to find things in the museum and most places that were identified were easy to find (means between 4.1 and 4.4). Finding the stairs and the exit were the only two problems (both means 3.3). The performance tasks also supported the need for simplicity on maps and illustrated the confusion that can be caused by unnecessary detail.

The results of this study indicate the importance of simplicity in handout maps. Visitors who used the handout map indicated that their expectations of the museum visit were enhanced. Forty-one percent said they looked forward more to the visit; 45% felt more comfortable, and 50% said they felt more oriented after looking at the map. This data shows that effective handout maps allow visitors to experience fewer wayfinding difficulties resulting in more satisfying museum experiences.