Matching Effectivities to Affordances in the Design of Jobs

Fred Emery, 1985

In an open systems framework or in other words, a framework for ecological learning, system and environment are interdependent, mutually defining the other and imposing limits on each other. Affordances are what the environment offers to the system at any point in time. An environment containing a hungry tiger does not afford the opportunity for a relaxed picnic. It does afford the conditions for a rush of adrenalin, a quiet retreat to the four wheel drive or a bit of target practice. Each of these latter are effectivities, the actions the system can make on the environment.

These new ways of conceptualizing the relations between system and environment allow us to be more precise in our analyses of organizational structures. The following is, therefore, a more powerful elaboration of the six psychological requirements for human activity [Ed].

People's actions do not arise as mere responses to external stimuli, neither do they arise as responses to internal stimuli such as images, thoughts and memories. Their actions arise in response to the situation defined by the relations between their effectivities and the environmental *affordances*. Such meanings as the situation may have for the person are in these relations and not in the person or in the environment taken separately. Environmental affordances can only be specified with respect to the effectivities of some organism; effectivities can be specified only with respect to what some environment affords.

Any model of communication that attempts to explain human action must deal explicitly with the interrelation of affordances and effectivities.

Extended organized activity is facilitated by communications as they enable co-actors to match their joint effectivities to affordances presenting in different places at the same time or at the same place at different times.

Organizations are nothing other than the controlled and co-ordinated effectivities of the co-actors where these effectivities include their abilities to detect affordances and to communicate with each other.

Decision making

When conditions have been designed for operation via a self managing group the question must be faced as to whether the group has within it sufficient knowledge to make wise operating decisions. They can of course not just refer questions to an experienced supervisor. If they have enough knowledge they can make quicker and many more precise decisions than could any single supervisor who has to try and supervise the whole operation.

For the operators it will not be enough that they know one specific job. If they are to make the most of the flexibility built into the design they must know what is going on at any of the posts they may find themselves at any time.

To be effectively multiskilled they need to know the logic or science that governs the whole operation in their sections, not just the isolated bits that are traditionally associated with one or

more of the jobs in the section. In the staffing of the new Porsgrun Fertiliser plant, 1965, this necessitated over 200 hours of formal training in industrial chemistry, instrumentation etc.

In the staffing of the Woodlawn Mine and Treatment Process, 1974, this required up to 800 hours of formal training (although most of this was skills training rather than knowledge creating). Increasingly self managing groups will need to have knowledge of the statistical and other computer aided techniques used for control over quality and system analysis. Decisions that an experienced supervisor might make by `the seat of his pants' will, in a self managing group, often need to be grounded in facts. A debatable area is whether members of self managing groups need educating in the managing of themselves. There are those who recommend training in Group Relations. This is justified on the grounds that work experience will have given people very little positive experience of cooperation.

However, because the authoritarian organization of work does not afford opportunities for overt cooperation we should not overlook the covert cooperation that is a feature of worklife and the extensive experience of teamwork that most people get in sport and other nonwork activities. We should probably accept that if people are able to carry on a conversation they can cooperate. To treat them otherwise verges on an insult.

Opportunities to learn and go on learning/Capacity to learn

A properly designed self managing operation will afford opportunities for the two essential objective conditions for learning, namely that the groups can negotiate for variation in their goals so that they be confronted with an optimal level of challenge and they get timely and adequate feed-back on their performance. Without the latter there can be no experimentation to find better ways of working and goal achievement is simply a matter of luck.

Whether the possibilities for learning are realized depends upon whether the people of the self managing groups are capable and desirous of making the most of them.

Not everyone in a self managing group needs to be fully multiskilled or an expert in all of the operations of the group. It is possible to operate efficiently if there is a core of people who can cover each other in the event of absences for sickness, holidays etc.

The existence of such a core depends upon prior selection and the existence of procedures whereby the group can dispense with members who are unable or unwilling to learn. We are referring here to an essential core. Where a core exists it is easier for such a self managing group to find a useful and meaningful place for a handicapped person than it is for a traditionally organized section.

Optimal variety/`Programs for action' (Planning)

We can design for a self managing group so that it allows the members to achieve reasonably optimal levels of variety.

However, we often cannot design out some routine work that could be sub-optimal if engaged in for long stretches of time. Also, we sometimes cannot design out the need for a number of highly demanding tasks that, if they cropped up at the same time could cause overload.

There is thus a challenge to the workers to plan their work so that no one gets too much of the routine and no one is too long stressed by overload. More importantly the work needs to be planned

so that the routine tasks are embedded in the completion of significant tasks and that, where there are a number of significant tasks that could compete for attention they should be prioritized.

Just as the capacity to learn is enhanced by improving the knowledge base of the members of a self managing group then so their ability to optimize task variety should be enhanced by their knowledge of what is important and their ability to learn better ways of working. A `job enrichment' plan imposed from without is hardly every going to be as good as the plans they evolve to meet their particular circumstances and their personal needs.

In extreme cases prior selection for ability to tolerate boredom or stress might be justified. Generally speaking they would not be. Given the freedom of movement that is designed in for self managing groups even minimal planning should reduce the stress found in the traditional one person-one station jobs. Also, the social climate allowed for in self managing groups should help most people to live with degrees of boredom and levels of stress that they would not tolerate on their own.

Mutual support and respect/`Co-orientation'

The crucial feature of the design of self managing groups is that it does not afford support for individuals to pursue egocentric or competitive work goals. It affords support only for cooperative efforts.

The critical question would appear to be whether people whose working life has been spent in `looking after number one' in competitive settings are able to adjust to such a radically different style of working.

Note, however, that the job design requires only that people relate to each others efforts so as to fulfil the objective requirements for completion of the tasks. It is to be expected that, with a little experience, they will develop an appropriate level of respect for what the other brings to the joint task and a willingness to support others, as they expect others to support them. If friendships should develop in the process then so be it, but there is no way that the design presupposes or requires friendship.

What a self managing group affords or does not afford in the way of mutual support and respect is very obvious to any participant. They can see it for themselves and do not require fancy concepts or special courses in sensitization in order to detect it. Whether they are prepared to work in this way can be determined only by self selection processes.

Meaningfulness of job and product/Relevance

In self managing work groups there is no room (at least no necessity) for donkey jobs. It is possible for all members to contribute to the significant tasks of the section. There is, however, little that job design can do with respect to the social value of the section's end product except to enhance the quality of that output.

Whether the group members feel that their job has relevance may depend a good deal on how well they are informed of who their ultimate customers are and how well their product is respected.

Desirable future/`Expectations' (level of aspiration)

How far can design of jobs afford objectively better future opportunities beyond the organization?

Perhaps self managing groups should consist only of people whose career aspirations do not extend to the top level of multiskilling? That is not too realistic. There will be many whose level of aspiration will be raised when they discover how easily they can master new skills and how well they can contribute to the management of their group. Those who have expectations of achieving managerial levels might be encouraged to enter via this path rather than via an MBA.

Overall observations

There is a long tradition of trying to scientifically match people to jobs (effectivities to affordances).

The problem is radically transformed with the introduction of self managing work groups. They are able, within limits, to constantly vary the way they work to find a better match. Nevertheless they require resources of education, skilling and task related information that are not found necessary in the traditional workplace. They also require rights in the selection process that are not normally extended to employees. When we are dealing with the staffing of a new `greenfields' site then the way the jobs are advertised and explained usually works very efficiently to attract those who welcome what self managing groups afford. When an old workplace is being transformed there are always many serious problems with individuals who stand to lose what was a privileged niche. Often the niche is no more than a privileged relation with the supervisor, job ownership of a particularly efficient bit of equipment or a cushy task.

These are not questions of potential effectiveness but of willingness. They are no more open to `decision by rule' than are divorce proceedings. The only guidelines emerging from past experience of unionized plants and offices is that the easiest way out is to buy out the opposition (as it is for displaced supervisors); if that is not possible use peer pressure before using the Personnel Department.