

## 01 · THE ITEM

## 02 · INITIAL RECORD

## 03 · INVESTIGATION

# What's there?

A detailed account of a proposed education-centre network: its organisation, facilities, spatial requirements, operating arrangements and potential for growth and change.

## What attracts attention?

The proposal moves beyond the individual school towards a distributed system of educational resources. The tabulated accommodation requirements, flexible provision and shared facilities suggest an institution organised around changing needs rather than a fixed building.

*To be recorded, if recalled.*

# Recollection · 1972

## Questions to investigate

1. How does this account of educational planning relate to the *Atom* project on pp. 232–235?
2. Does the emphasis on individualised learning correspond with *Atom*'s proposed educational environment?

## Further examination

The page directs the reader to p.242 for the continuation of its argument.

## Relationships

AD/5/68 <-> "What about Learning More?"

Relationship to be investigated, not assumed.

## Findings

*Open for subsequent entries.*

erely an individual school, which, once freed of an imagined comprehensive role.

The programmes for 4500 students, number and size of rooms planned, intended staff, and various input patterns, provided the input data. In five minutes, the computer was undertaken thousands of combinations possible and started to print a schedule. Twenty-five minutes later the use of rooms, including each faculty member's schedule, each student scheduled, the percentage of rooms used, the percentage of rooms covered, and the percentage of floor covering some 100 pages was available for analysis.

From the outset we had been concerned about seat occupation as well as the use of rooms. If 25 students were in a room furnished for 50 students, this would involve 100 per cent use of the room for an hour but only 50 per cent seat occupation. Thus, in each of the 27 computer runs we changed the size of some rooms. In this way we reached 82 per cent use of the classrooms and 66 per cent of the laboratories.

The 7094 computer at McDonnell Automation Center was used with the GASP programme developed by Robert Holz of MIT. The final

| Room               | Our total | Similar colleges |            |            | Our room use<br>per cent | Our seat use<br>per cent |
|--------------------|-----------|------------------|------------|------------|--------------------------|--------------------------|
|                    |           | Same enrollment  |            |            |                          |                          |
|                    |           | A                | B          | C          |                          |                          |
| Classrooms         | 37        | 84               | 63         | 82         | 82                       | 87                       |
| Lecture Halls      | 6         | 1                | 5          | 5          | 86                       | 86                       |
| Science Labs       | 15        | 33               | 38         | 21         | 66                       | 91                       |
| All Others         | 27        | 23               | 30         | 41         | 72                       | 88                       |
| <b>Total Rooms</b> | <b>85</b> | <b>141</b>       | <b>136</b> | <b>149</b> | <b>77</b>                | <b>88</b>                |

In addition to proving that the desired occupation for each type of room could be obtained within the proposed master plan, it was shown how the master plan could best be modified. Conservatively this could mean a saving of \$3,000,000 on this one project. Other studies would confirm that such concentrated use is possible—particularly with the use of the computer as a check in the development of a master schedule for planning and operation. These are dramatic figures and the \$10,000,000 not invested in the three projects could provide the basis for quality education.

It may be possible to reject altogether the classroom as we know it. A revolution is already apparent in the ungraded classes of school team teaching, continuous progress, modular scheduling, instructional systems, the 'organic curriculum', and such hardware as TV, dial-access, and computer-assisted instruction. The dispersal of education could be furthered by self-instruction and electronics in the home, the shopping centre and office buildings. A possible programme for the node or

education or they might be:

- For the infant (under 2 years of age) and the elderly and infirm, educational toys or packages of materials to be checked out from the node and used in the home. These students could be visited on a regular basis, to determine their progress, interest, and reactions.
- For the child between 3 and 6, the neighbourhood node would be available from 9 a.m. until 4 p.m. These would be prime hours and would provide the opportunity for a large amount of group activity ensuring social interaction and the growing maturity of emotional responses. The major emphasis would be on the development of learning skills—reading, problem solving and techniques of investigation.
- For the adolescent, from 7 to 12, the same node would be available from 6 p.m. to 9 p.m. The emphasis would be upon continued development of learning skills and the absorption of certain levels of information on arithmetic, English, speech, history, geography, etc.

For the teenager and young adult (ages 13 to 18), the same node would be open from 6 a.m. until 9 p.m. This group would have small group discussions in which they would compare and contrast interpretations of possible solutions to social and technological problems, as well as undertake work in social science and physical science areas. An introduction to the fine arts would begin with this age group, having approached them as recreational or play activities in earlier years.

As the effectiveness of self-instructional materials increases, the need for tutors in the nodes will decrease. Similarly, the effect of curricula material development specialists will become increasingly effective, reducing the number of educationalists required. It is estimated that a staff-student ratio of 1 to 45 would suffice for the year 1960, a ratio of 1 to 60 for 2000, and a ratio of 1 to 150 for 2020.

decreases, however, the need for recreational/cultural activity supervisors and for monitors and leaders of discussions and social activities will remain about the same or increase slightly as the work-week is shortened, the retirement age is lowered, and the amount of free time for such pursuits increases.

The basic facilities required will include:

- An administrative centre
- Radio and TV studios
- Information processing centre
- Media preparation, production, storage and circulation centre

Performing arts, conference, art collection and learning materials centre.

A node for cultural/recreational activities in each of the neighbourhoods. The nodes will be largely made up of open areas with varying sizes of self-study facilities and substantial storage and retrieval areas for unused material.

Many of the nodes will have a major facility for outdoor recreation, larger assembly facilities

The primary changes in the educational process will involve the gradual and continuing shift away from hand skills, semi-skilled occupations, and narrow trade or vocational fields such as lathe operators, punch card operators, etc., and move toward intellectual/mental skills, semi-professional occupations, and the like, such as those involved in metal forming, information processing, etc.

As education is moved from the school into the home and place of work, cultural/recreation centres will enhance and combine many of the cultural/educational/recreation activities formerly associated with separate institutions, such as the sports ground, art gallery, library, museum, elementary and secondary schools, university and factory.

Funds to further these innovations—outright experiments—must be found. The kind of funds

needed for R & D (Research & Development) are essential to the free enterprise system of business and industry and are vital to military programmes, yet they are almost unknown in the field of education. With education consuming more of local and state finances, it becomes an increasing percentage of the gross

national product. As more funds are invested for increasing numbers of students, 5 per cent (or even a start of 3 per cent) of the total R & D funds need to be invested in research on how humans learn, using different media and instructional strategies, with the knowledge that some 'Edsels' will come and some (like test

A great teacher once viewed an innovation with alarm. He said, 'This invention of yours will produce forgetfulness in the minds of those who learn it, causing them to neglect their memory'. The speaker was Socrates—he was talking about writing. □

Select image to view full size.