

AKADEMI DESAM DI YOGYAKARTA**POPULASI PEMAKAI**

Populasi pemakai dihitung berdasarkan jumlah mahasiswa dari titik jenuh penerimaan, dan prediksi mahasiswa tinggal kelas 15 %

Jumlah mahasiswa,

$$Y_n = a_n \cdot Y_{(n-1)} + b_n \cdot a_n Y_{(n-1)}$$

Y_n = jumlah mahasiswa tahun ke n

a_n = prosentase mahasiswa naik kelas / pada tingkat ke n

b_n = prosentase mahasiswa tinggal kelas pada tingkat ke n

Tingkat I -----	200	=	200 mhs
Tingkat II -----	$0,85 (200) + 0,15 (0,85 \cdot 200)$	=	196 mhs
Tingkat III -----	$0,85 (196) + 0,15 (0,85 \cdot 196)$	=	192 mhs
			<hr/>
			588 mahasiswa

PERHITUNGAN USE FACTOR

Use factor kurang jika prosentasenya kurang dari 25 % , Use factor sedang jika prosentasenya antara 25- 50 % dan use factor yang bagus jika dalam penggunaannya lebih dari 50 %.

Untuk menghitung use factor ini dipakai Educational Workshet

- a.) *Class size* dengan studi banding untuk faktor kegunaan teori 1 : 100 maksimal 1 : 150, untuk praktek 1 : 50 maksimal 1 : 75.
- b.) *Enrollment*.

Yaitu jumlah peserta mata kuliah tersebut setiap jurusan, semester, tingkat.

- c.) Jumlah jam mata kuliah/ minggu
- d.) Jumlah jam mengajar 24 jam/minggu

Dari situ dapat dihitung

- a. jam pemakaian ruang / minggu

$$X = \frac{(Enrollment)}{(Class size)}$$

x = jam pemakaian ruang

AKADEMI DESAM DI YOGYAKARTA

b. macam dan jumlah kebutuhan ruang, dengan menggunakan cara :

$$\frac{\text{jumlah total jam mata kuliah tiap macam ruang}}{\text{jumlah jam tiap minggu}}$$

c. *Use Factor*

Daya tampung ruang dalam %

$$\text{Use Factor} = \frac{\text{jumlah jam per kolom ruang}}{n} \times 100 \%$$

n = jumlah ruang yang dibutuhkan

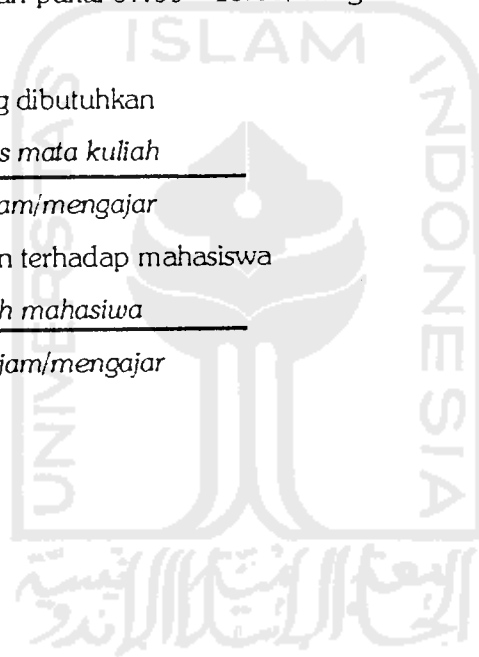
waktu kuliah per hari pukul 07.00 – 18.00, dengan use faktor efisien > 50 %

d. Jumlah Dosen yang dibutuhkan

$$\frac{\text{Jumlah sks mata kuliah}}{\text{Jumlah jam/mengajar}}$$

e. Ratio Jumlah Dosen terhadap mahasiswa

$$\frac{\text{Jumlah mahasiswa}}{\text{Jumlah jam/mengajar}}$$



ERHITUNGAN KEBUTUHAN RUANG PROGRAM STUDI DESAIN GRAFIS

TINGKAT		MACAM RUANG										JUMLAH	
SEMESTER												DOSEN	
NO	DATA AJARAN	T/P	CLASS SIZE									JAM/ MG	JML
				20x2	3	4	5	6	7	8			
1	Pendidikan Agama	T	100	2								100	0,040
2	Bahasa Indonesia	T	100	2								100	0,040
3	Bahasa Inggris I	T	100	2								100	0,040
4	Nirmana I	P	50	3 ¹²								50	0,024
5	Sejarah Seni Rupa Indonesia	T	100	2								100	0,040
6	Menggambar I	P	50	3 ¹²								50	0,024
7	Proses Komunikasi	T	100	2								100	0,040
8	Tipografi	P	50	2		8						50	0,160
9	Bahasa Gambar	P	50	3 ¹²								50	0,024
10	Pancasila	T	100									100	0,040
11	Bahasa Inggris II	T	100									100	0,040
12	Nirmana II	P	50	12								50	0,024
13	Sejarah Seni Rupa Barat	T	100									100	0,040
14	Menggambar II	P	50	12								50	0,024
15	Komputer Dasar	P	50			8						50	0,160
16	Psikologi Persepsi	T	100									100	0,040
17	Desain Grafis I	P	50		16							50	0,320
18	Penulisan Teks	T	100									100	0,040
19	Kewiraan	T	100									100	0,039
20	Estetika	P	50	7,84								50	0,157
21	Tinjauan												
22	Metode												
23	Desain												
24	Komp												
25	Ilustrasi												
26	Metode												
27	Manajemen												
28	Desain												
29	Fotografi												
30	Media												
31	Komputer												
32	Ilustrasi												
33	Perencanaan												
34	Tipe												
35	Fungsi												
36	Ilustrasi												
37	Ilustrasi												

LAMPIRAN 02

RAVA/VLVA
 $h_i = d$
 $P_e = L$
 T
 F
 I
 I
 6E
 8E

PERHITUNGAN KEBUTUHAN RUANG PROGRAM STUDI DESAIN FOTOGRAFI

TINGKAT SEMESTER				MACAM RUANG								JUMLAH DOSEN		
DATA AJARAN			T/P	CLASS SIZE	200	2	3	4	5	6	7	8	JAM/MG	JML
1	Pendidikan Agama	T	100	2									100	0,040
2	Bahasa Inggris I	T	100	2									100	0,040
3	Nirmana	P	50	3	12								50	0,240
4	Estetika	P	50	2	8								50	0,160
5	Sejarah Fotografi	T	100	2									100	0,040
6	Teori Komunikasi	T	100	2									100	0,040
7	Fotografi I	P	50	4					16				50	0,320
8	Kamar Gelap I	P	50	2						8			50	0,160
9	Komposisi I	P	50	2							8		50	0,160
10	Pancasila	T	100										100	0,040
11	Bahasa Inggris II	T	100										100	0,040
12	Komputer Dasar	P	50					8					50	0,160
13	Fotografi II	P	50						16				50	0,160
14	Kamar Gelap II	P	50							8			50	0,160
15	Komposisi II	P	50							8			50	0,160
16	Fotografi Jurnalistik	P	50						12				50	0,240
17	Fotografi Studio I	P	50						8				50	0,160
18	Kewiraan	T	100										100	0,039
19	Pengetahuan Periklanan	T	100										100	0,039
20	Fotografi III	P	50						15,68				50	0,314
21	Kamar Gelap III	P	50							7,34			50	0,157
22	Fotografi Model	P	50						11,76				50	0,235
23	Fotografi S													
24	Aplikasi K													
25	Bahasa Ii													
26	Teknik P													
27	Fotograf													
28	Kamar C													
29	Fotogra													
30	Tinjau													
31	Sejare													
32	Foto													
33	Mane													
34	Foto													
35	Fote													
36	Profed													
37	Foley													
38	Tinj													
39														

LAMPIRAN 03

KETERANGAN
 T = TEORI
 P = PRAKTIK
 p = Praktek

ERHITUNGAN KEBUTUHAN RUANG PROGRAM STUDI DESAIN INTERIOR

NO	DATA AJARAN	T/P	CLASS SIZE	MACAM RUANG								JUMLAH		
				SEMESTER								DOSEN		
				20	3	4	5	6	7	8	JAM/ MG	JML		
1	Pendidikan Agama	T	100	2										
2	Ilmu Alamiah Dasar	T	100	2								100	0,040	
3	Ilmu Sosial Dasar	T	100	2								100	0,040	
4	Bahasa Indonesia	T	100	2								100	0,040	
5	Bahasa Inggris I	T	100	2								100	0,040	
6	Nirmana I	P	50	3								50	0,240	
7	Menggambar I	P	50	3								50	0,240	
8	Gambar Teknik I	P	50	3	12							50	0,240	
9	Konstruksi Bangunan	P	50	2								50	0,240	
10	Ilmu Pengetahuan Bahan I	P	50	2							8	50	0,160	
											8	50	0,160	
11	Pancasila	T	100									100	0,040	
12	Bahasa Inggris II	T	100									100	0,040	
13	Nirmana II	P	50	2								50	0,240	
14	Menggambar II	P	50	2								50	0,240	
15	Gambar Teknik II	P	50	2								50	0,240	
16	Desain Mebel I	P	50		12							50	0,240	
17	Desain Interior I	P	50		12							50	0,240	
18	Ilmu Pengetahuan Bahhan II	P	50		16							50	0,320	
											8	50	0,160	
19	Kewiraan	T	100											
20	Estetika	P	50	4								100	0,039	
21	Sejarah Seni Rupa Indonesia	T	100									50	0,157	
22	Komputer Dasar	P	50									100	0,039	
23	Ergonomi	P	50				7,84					50	0,157	
24	Sejarah /				7,84							50	0,157	
25	Desain I													
26	Fisika B													
27	Desain													
28	Sejarah													
29	Autocad													
30	Metode													
31	Tinjauan													
32	Manajemen													
33	Desain													
34	Teknik													
35	Desain													
36	Ar													
37	Tek													
38	Kal													
39	T													
40	I													

LAMPIRAN 04

31 Tinjauan
 32 Man
 33 Des
 34 Tek
 35 Des
 36 Ar
 37 Tek
 38 Kal
 39 T
 40 I

GAMBAR SAMPLE GEDUNG RISET DAN PENELITIAN

Greenway Business Park

LOCATION: Richardson, Texas, USA

NAME OF PROJECT: Northern Telecom/Bell Northern
Research Campus

SIZE: 200,000m²

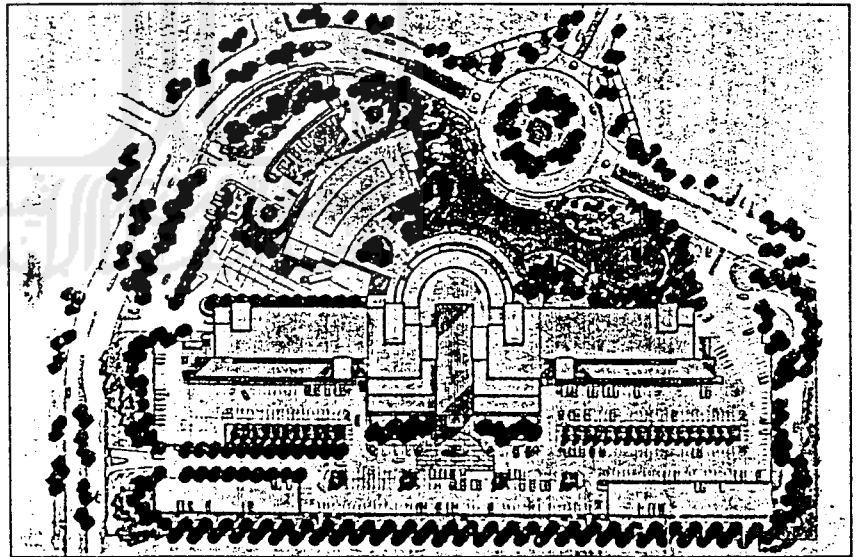
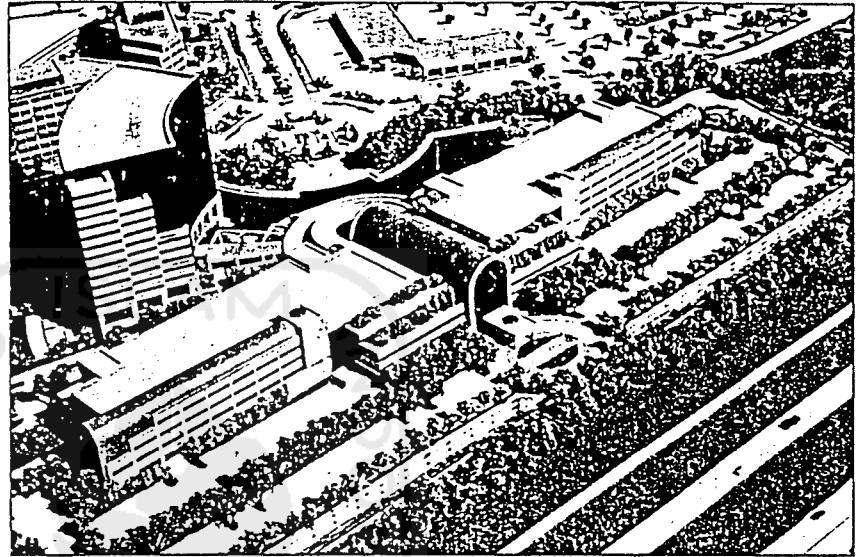
FUNCTION OF BUILDING: Corporate HQ and research
and development facilities

DATE OF COMPLETION: 1992

ARCHITECT: Hardy McCullah/MLM Architects Inc.,
Dallas, Texas, USA

The project combines a 16-storey administration block and a 10,000m² research and development laboratory. Shared amenities include a cafeteria, credit union, convenience store and health centre.

The early drawings showing a huge, three-storey linear arrangement of offices and research facilities ranged as two armatures about an eighty-foot atrium and barrel-vaulted ceiling, together with the sixteen-storey tower, come to realisation via the model making process with extraordinary accuracy.



Greenway Business Park continued over page



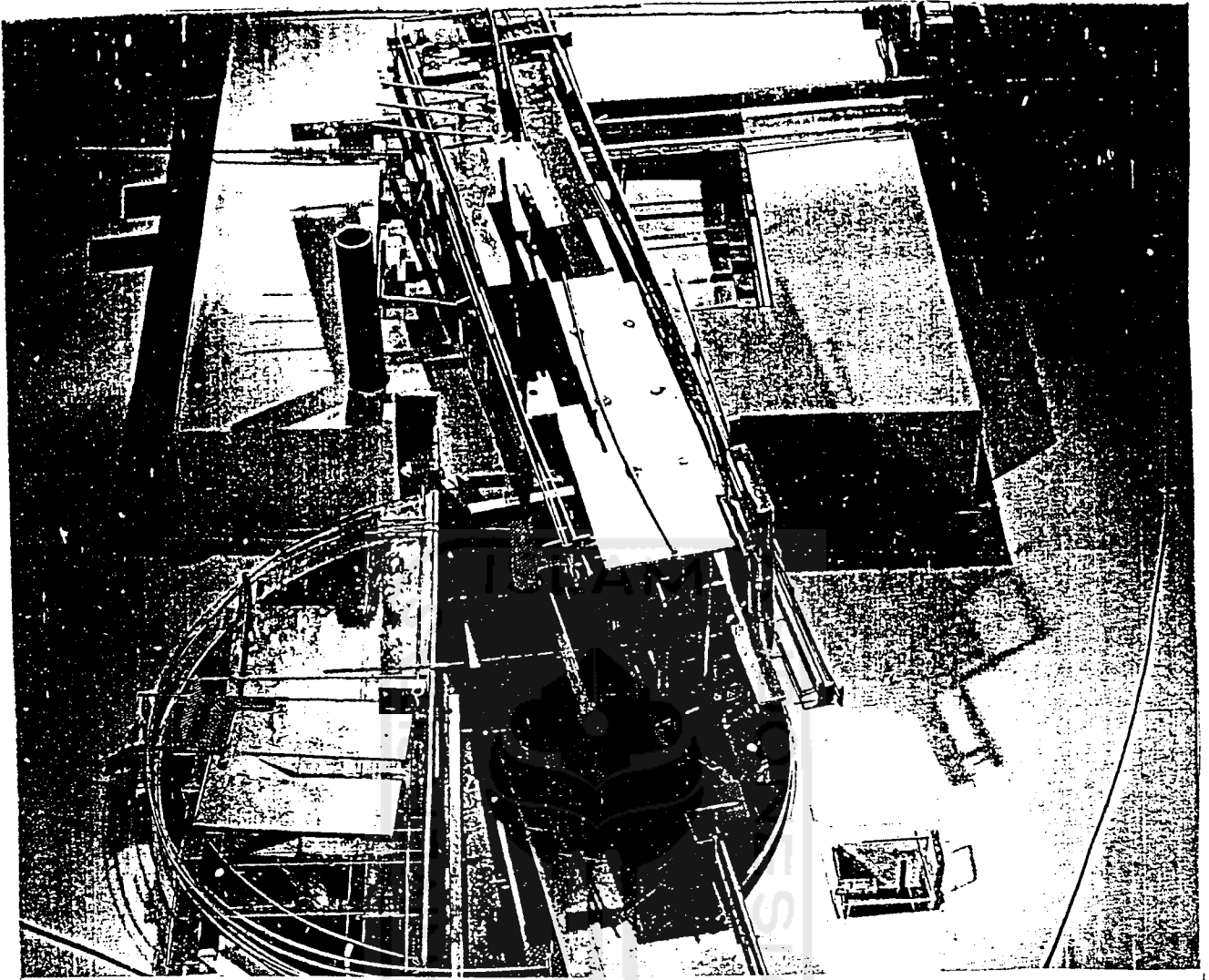
GAMBAR CONTOH BANGUNAN DENGAN TAMPAK YANG DINAMS

Greenway Business Park continued

Northern Telecom's Research and Development arm, BNR Incorporated, forms the heart of a huge Texan business park. Unlike European business parks, the scale of development allows for certain areas to be high-rise, including the sixteen storey Northern Telecom tower. Over 4,000 employees call for the inclusion of cafeterias, plazas, shopping and other central facilities, together with the visual and recreational facilities of lakes, gardens and parks. The heroic scale of BNR's complex quietly disguises a highly serviced building of extreme complexity.



GAMBAR MAKET UNIVERSITY OF MINNESOTA OF ARCHITECTURE



UNIVERSITY OF MINNESOTA SCHOOL OF ARCHITECTURE



GAMBAR SANDEN INTERNATIONAL YANG MEMPUNYAI FUNGSI SEBAGI KAMPUS DENGAN BENTUK KREATIF

Sanden International

LOCATION: Wylie, Texas, USA

NAME OF PROJECT: Sanden International (USA) Inc.

SIZE: 93 acres

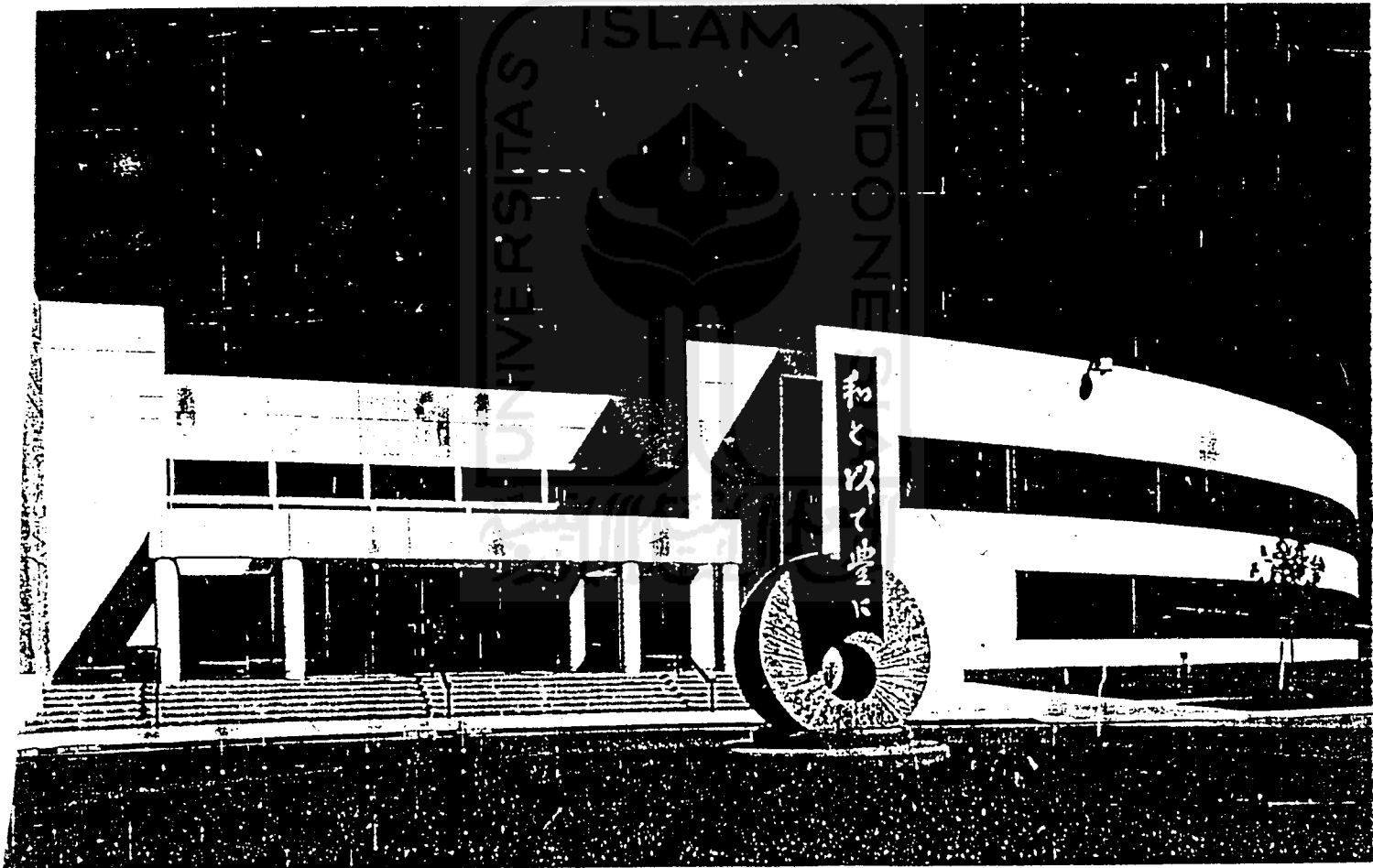
FUNCTION OF BUILDING: Corporate campus

DATE OF COMPLETION: 1990 and ongoing

ARCHITECT: Hardy McCullah/MCM Architects Inc.,
Dallas, Texas, USA

The campus includes manufacturing, research, corporate offices, distribution, housing and recreation. It is planned for future phasing. The architects were awarded the NAACP Design '90 Honor Award in the Industrial Build-To-Suit category.

Most business parks are characterized by collections of neighbourhoods of buildings, each being occupied by different clients. There is, however, what one might term the single cell or corporate campus where an individual corporation such as the Automotive Air Compressor Company, Sanden, mark out a large territory in which to site their various office, research and manufacturing activities. The crescent-shaped administrative building embraces a huge courtyard, itself designed as a metaphor for the activities of the company. Aluminium-faced sandwich panels reinforce the smooth sweep of the research and office facilities, while exposed aggregate concrete declares the robust quality of the manufacturing process behind.



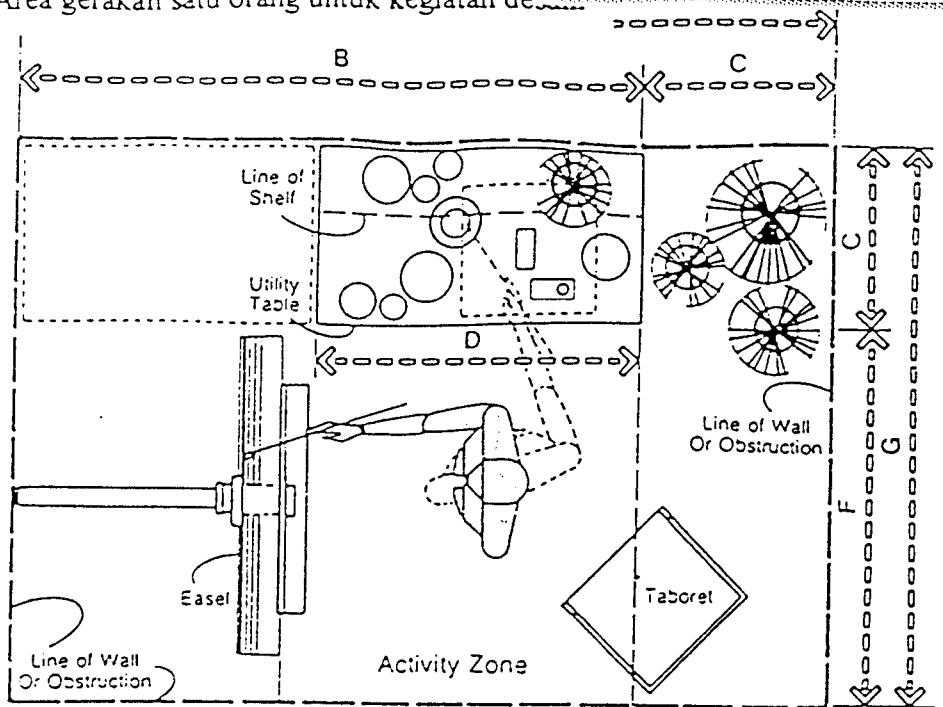
7.3 WORK AND CRAFT CENTERS

Most artists have individual preferences regarding the arrangement of their particular studio or workplace. In regard to human dimension and the artist's interface with his or her space, the factors to consider also vary greatly. Techniques, media, style, process all impact on the anthropometric requirements. The top drawing, therefore, should not be taken too literally. It is not intended to illustrate in detail a specific plan that will necessarily be responsive to the personal needs of all artists. It is intended simply to illustrate some of the components of the space. The anthropometric considerations involved must be examined with respect to the individual artist and the specific activities involved.

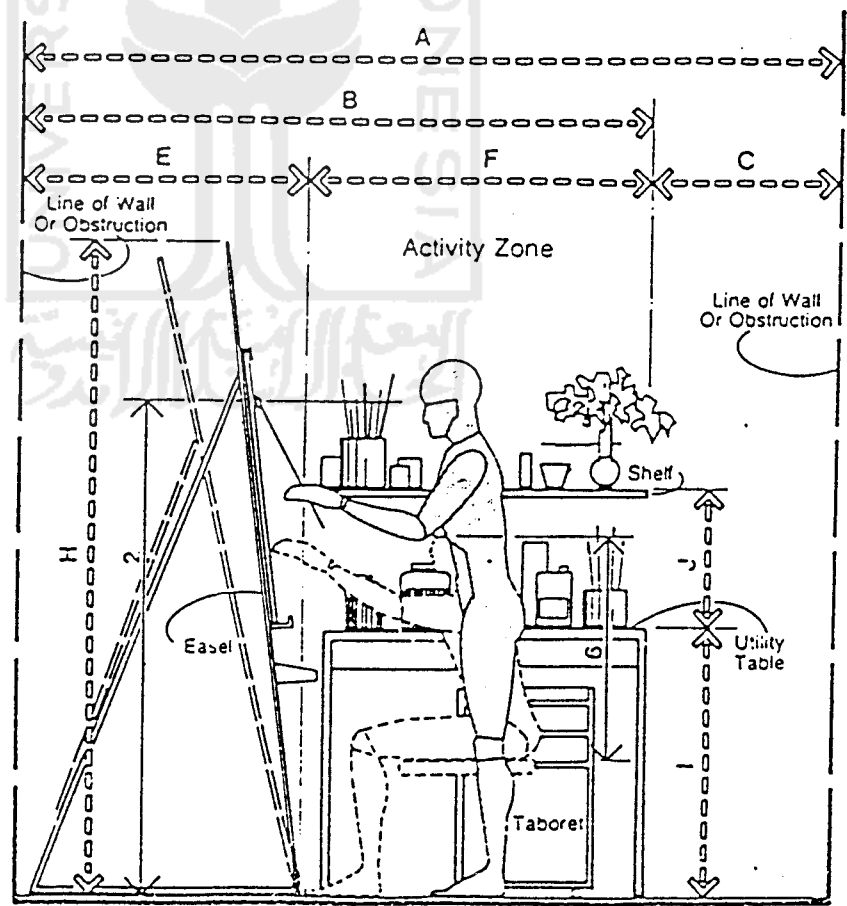
There are, however, some basic considerations that apply in most situations. Vertical reach from a standing and sitting position is helpful in locating shelving for art supplies. Side and forward arm reach measurements can be useful in locating various components of the space, relative to each other and the artist, in the most efficient manner possible. The eye height of a seated and standing person can be used to determine the location of visual displays and reference materials above the floor. Elbow height can be extremely helpful in establishing the height of a utility table. The text related to workbenches on the following pages of this section is also applicable to the artist's utility or prep table.

in	cm
108	274.3
84	213.4
24	61.0
42	106.7
36	91.4
48	121.9
72	182.9
72-86	182.9-218.4
30-36	76.2-91.4
18	45.7

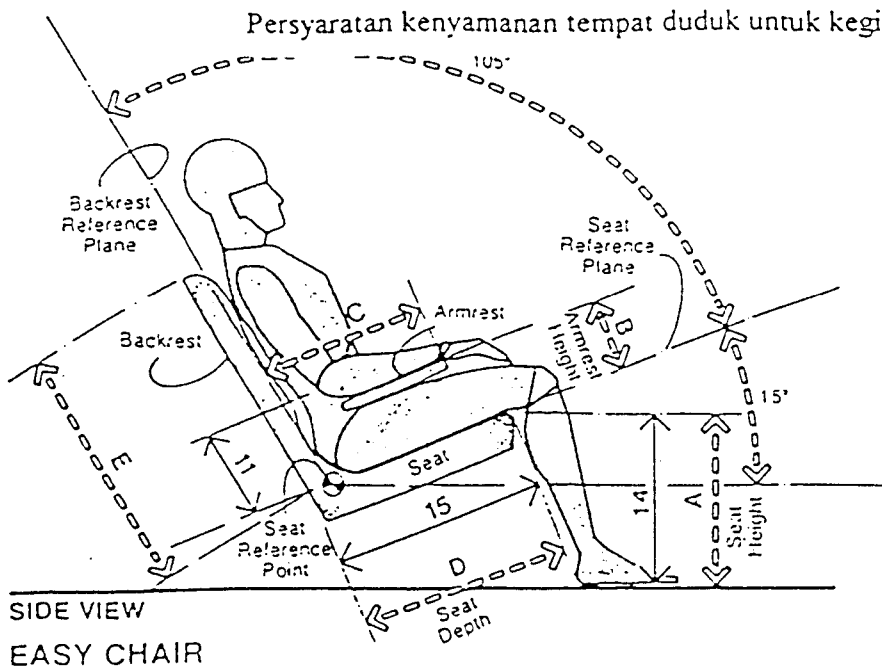
Area gerakan satu orang untuk kegiatan de...



PAINTING FACILITIES

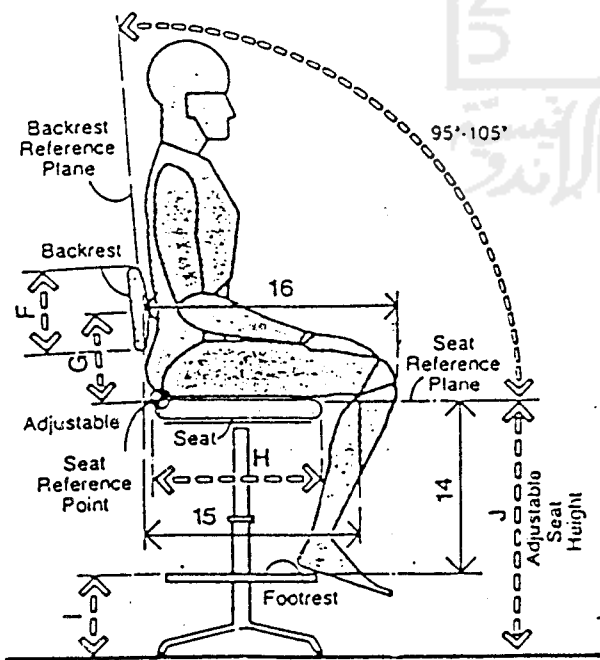
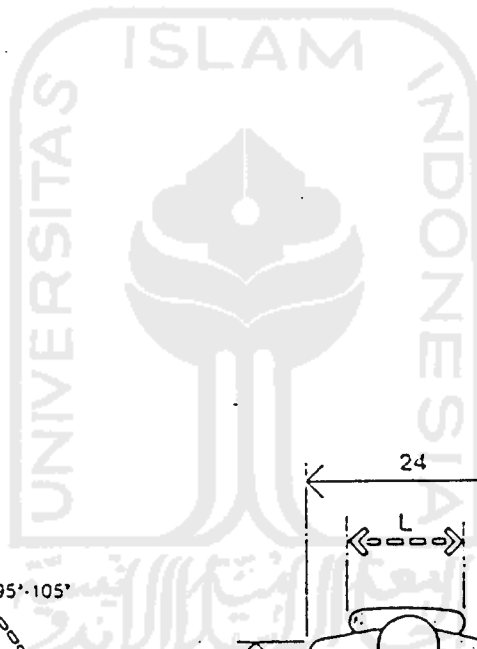


PAINTING FACILITIES

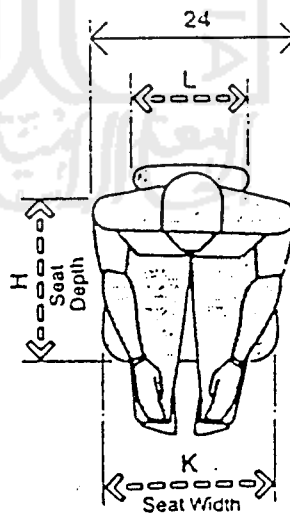


SIDE VIEW
EASY CHAIR

The easy chair, shown in the drawing at the top, is a difficult chair type to design, or establish guidelines for, since it is primarily intended for relaxation and comfort—qualities which are highly personal. Nevertheless, the drawing offers some basic dimensions for use in making preliminary design assumptions. The following suggestions should also prove helpful: (1) The angle formed by thighs and trunk should not be less than 105°. Angle significantly less than this will cause discomfort. (2) Design should allow the user to change body posture. (3) The front edge of the seat should be rounded to prevent irritation. (4) The backrest should provide lumbar support by following the spinal contour in the lumbar region. (5) The seat surface should tilt backwards. Too severe an angle, however, may cause a person difficulty in getting up from the chair, particularly for elderly people. A seat angle of about 15° should be adequate. (6) If the angle formed by the backrest with the vertical exceeds 30°, provisions for a headrest will be required in the form of a separate design element or extension of the backrest itself. (7) Armrests should be padded and designed horizontally or at the same angle as the seat surface. The drawing at the bottom provides basic dimensional information for the design of a drafting stool, which is similar in many respects to the secretarial chair.



SIDE VIEW
DRAFTING CHAIR / STOOL



PLAN VIEW

	in	cm
A	16-17	40.6-43.2
B	8.5-9	21.6-22.9
C	10-12	25.4-30.5
D	15.5-17.5	41.9-44.5
E	18-24	45.7-61.0
F	6-9	15.2-22.9
G	10 adjust.	25.4 adjust.
H	15.5-16	39.4-40.6
I	12 max.	30.5 max.
J	30 adjust.	76.2 adjust.
K	15	38.1
L	12-14	30.5-35.6

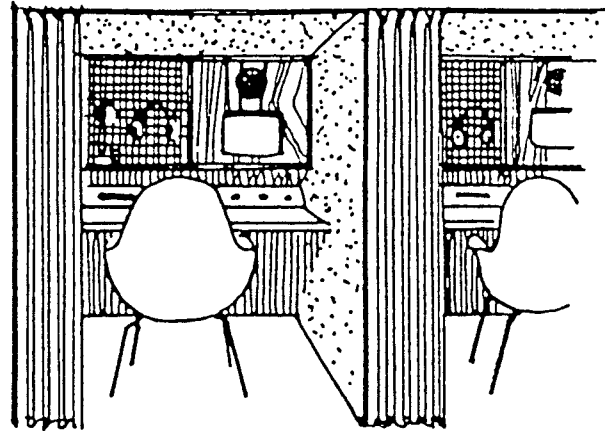
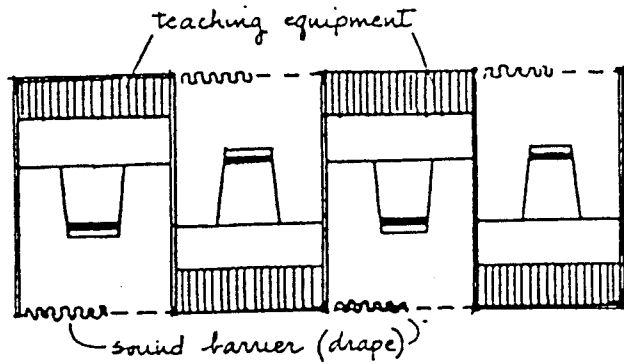
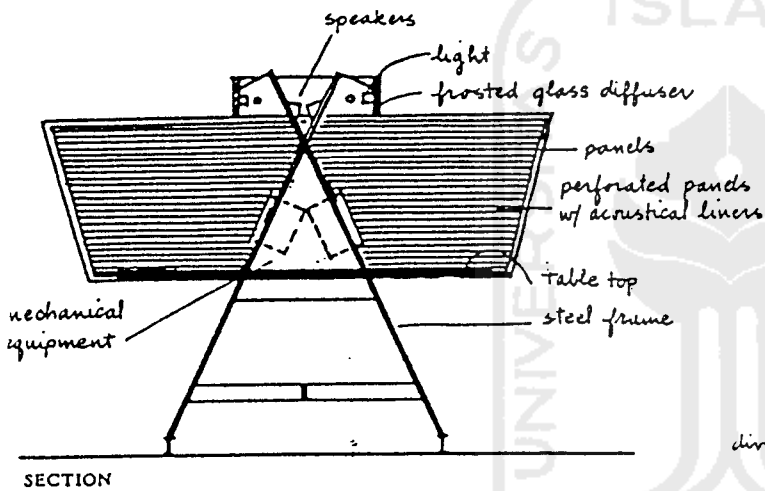
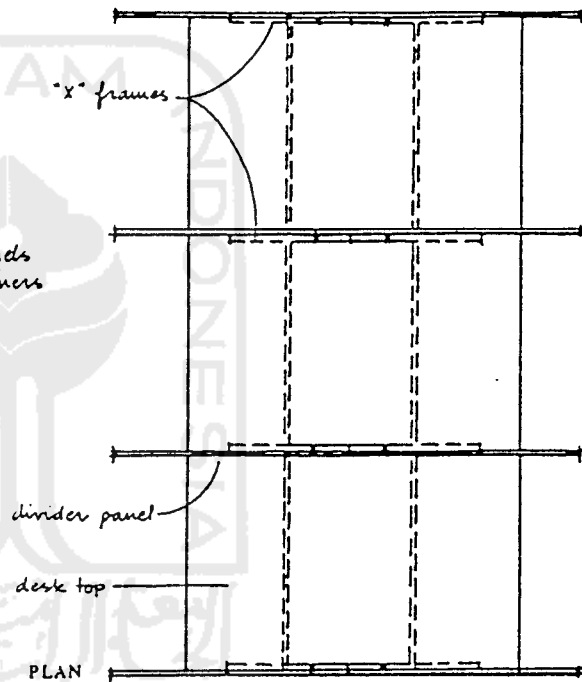


Fig. 11 Closed carrels for sound and visual equipment.



SECTION



PLAN

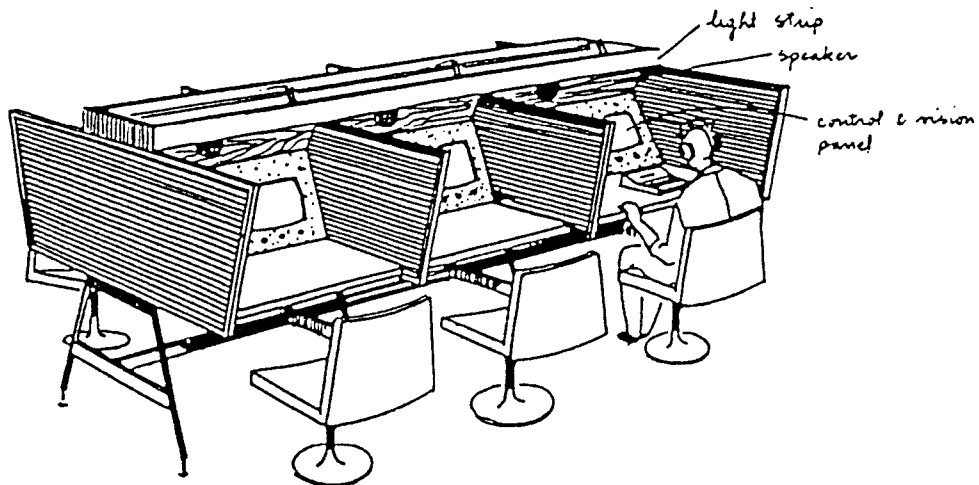


Fig. 12 Carrels with mechanical equipment built in, based on a steel or aluminum "X" frame. Frame folds up like a card table, can be used for other purposes as well.

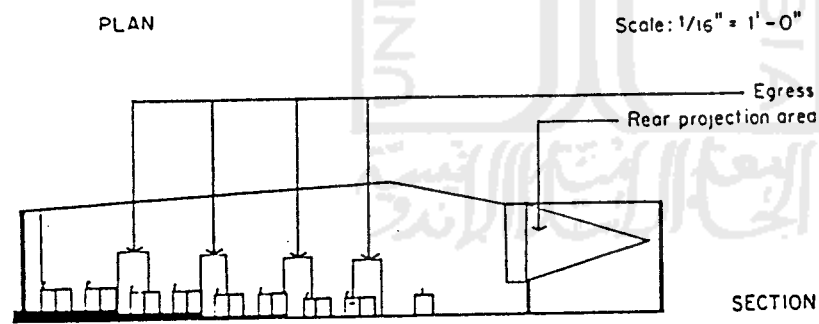
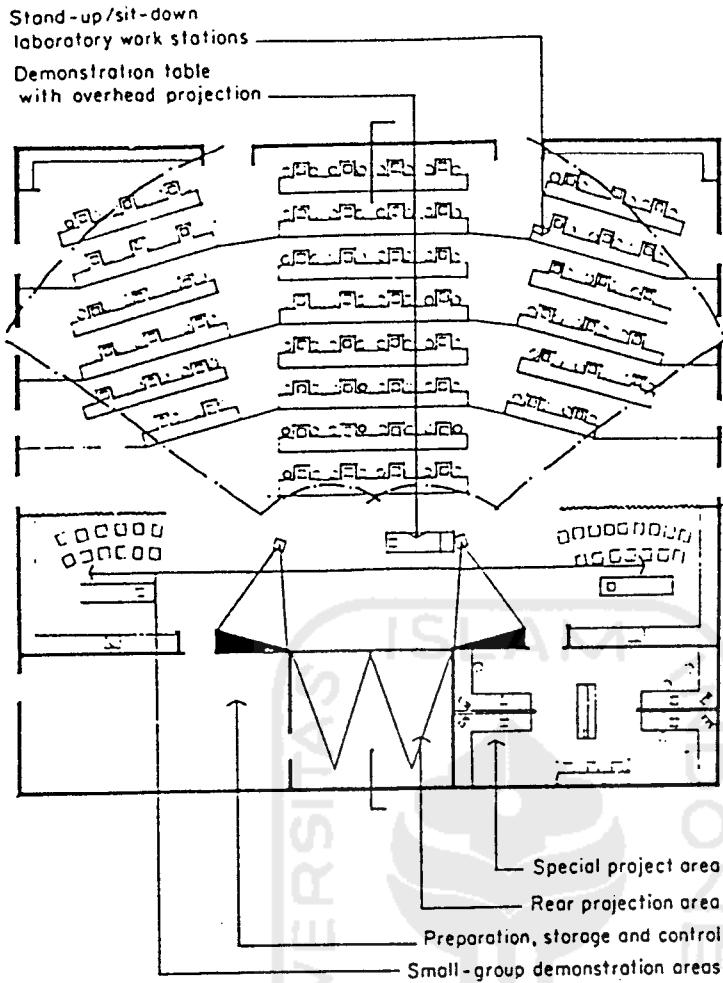


Fig. 1

the resources center or instructional materials center.

At the other end of the spectrum may be a very large and complex production facility as part of a large regional service and production center. Such facilities may form a part of the regional service center or educational laboratory. In between these two extremes are production centers which will serve a university, a college, a large high school, several schools within a district, an entire school district, or

all the institutions located in an educational park.

The important objective is to provide several echelons of production and support ranging from the very large and complex covering a region to the very simple and local serving a few teachers. Also, to adequately support the uses of media, all of these echelons of production and support should eventually be represented so that the instructional staff has many levels to draw upon, depending on

the complexity and needs of the particular learning situation.

2. Production support centers may be composed of a variety of components, each of which is related according to the echelon of production and the types of services to be offered. Some of these components are:

- Graphic arts production
- Photographic production
- Motion picture production
- Audio recording
- Animation
- Television origination
- Television control, distribution, and recording
- Film editing and processing
- Graphic materials production and assembly
- Scene, set, and model production
- Equipment storage and repair
- General storage
- Administration and offices for production staff and visiting faculty and teachers
- Conference and preview facilities
- Film and tape materials and equipment storage and distribution.

In programming an instructional support center, it is the manner in which these components are arranged and placed together that creates the appropriate center for a particular institution.

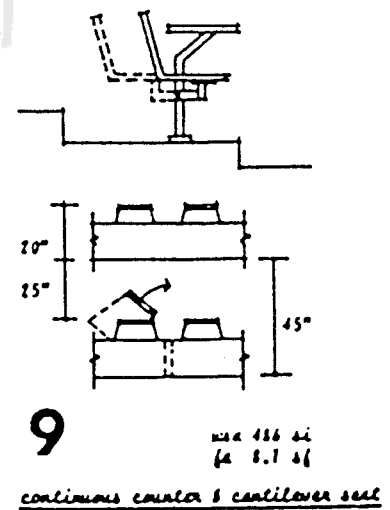
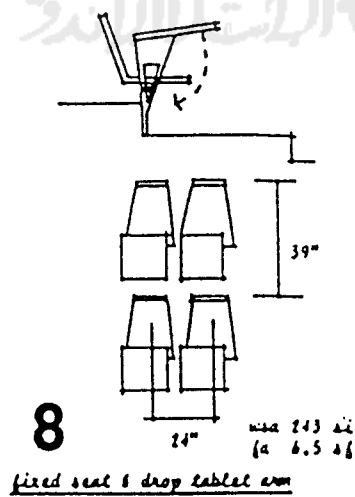
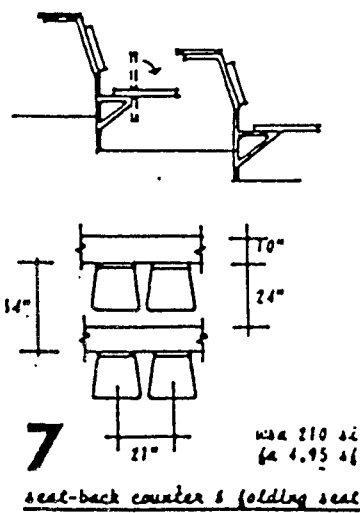
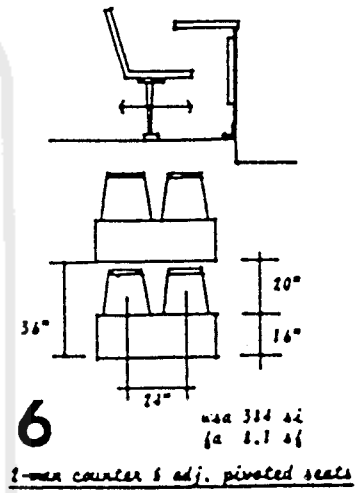
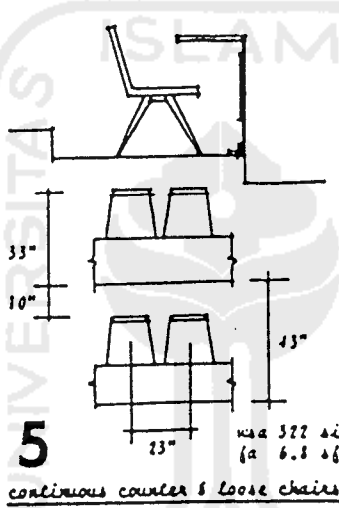
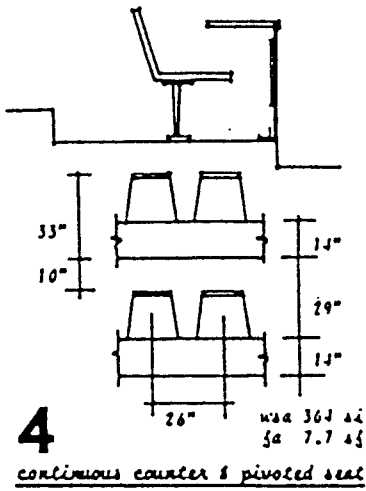
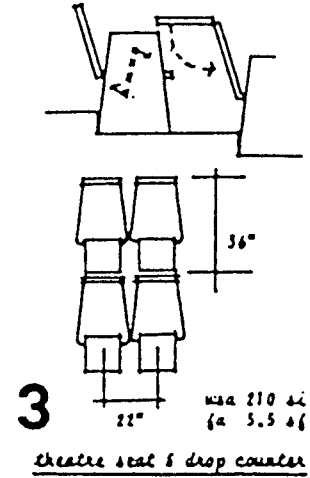
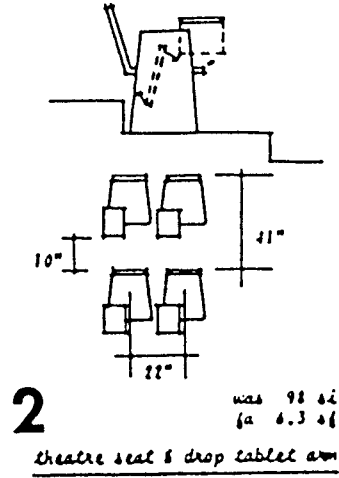
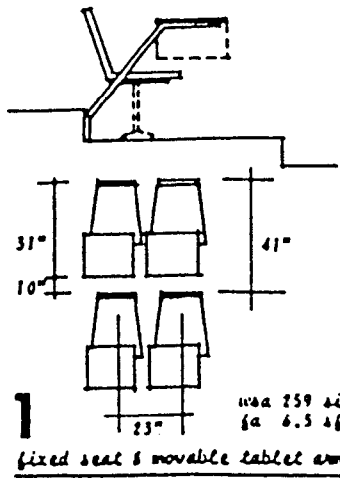
3. The instructional support center can perform several major services in addition to producing films, slides, tapes, and other instructional materials:

- It can design and produce materials that are not commercially available but which are needed for specific instructional purposes.
- It can provide technical assistance to teachers and professors in using instructional technology effectively. It is this type of assistance which helps teachers overcome a fear of mechanical devices about which they have little knowledge and great anxiety.
- It can be the catalyst which causes teachers to begin planning instruction and learning together. Producing televised instruction may bring cooperation among teachers who otherwise would always function as independent entities.
- An instructional support center can provide pedagogical assistance to teachers in designing learning. The learning systems designers—the pedagogical consultants—would logically be housed within this center.
- These facilities can provide the professional focus for teachers and faculty members by making available professional references, material, journals, and consultants.

4. Instructional support facilities may be an integral part of an educational plant or a separate, free-standing building or unit. In either case, consideration should be given to designing the area to permit changes in area and relocation of walls, services, and cables. Flexibility of this type is very important, as the functions, staff, and faculty develop. A "loft space," free of interior partitions and permitting economical changes, may be the best type of space.

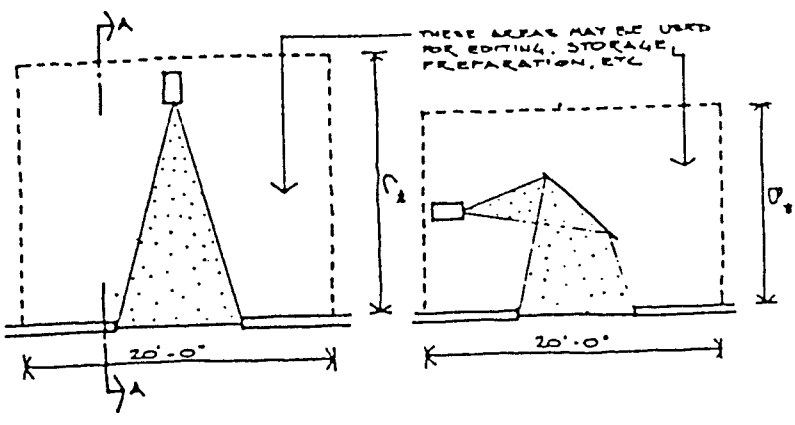
5. One of the changes anticipated above involves the planning of TV studios. Often when studios are initially planned, the faculty will wish to provide for a class of students to be present in the studio during production. However, as the faculty becomes more comfortable with television, the need for students in the studio is less significant. The building should be designed to permit this evolutionary change.

6. Obviously there is not single instructional



wsa - writing surface area
fa - floor area

Fig. 13 Seating types.



* NUMBER STUDENTS D L

100	10'-0"	14'-0"
300	15'-6"	17'-6"
650	17'-0"	21'-0"
1000	21'-0"	25'-0"

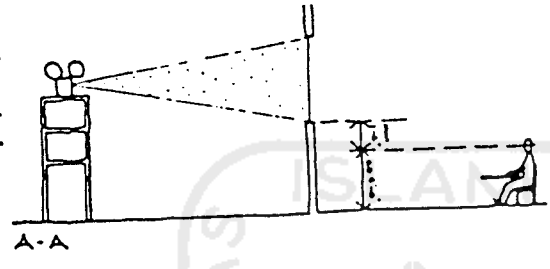


Fig. 1 Rear-screen projection area.

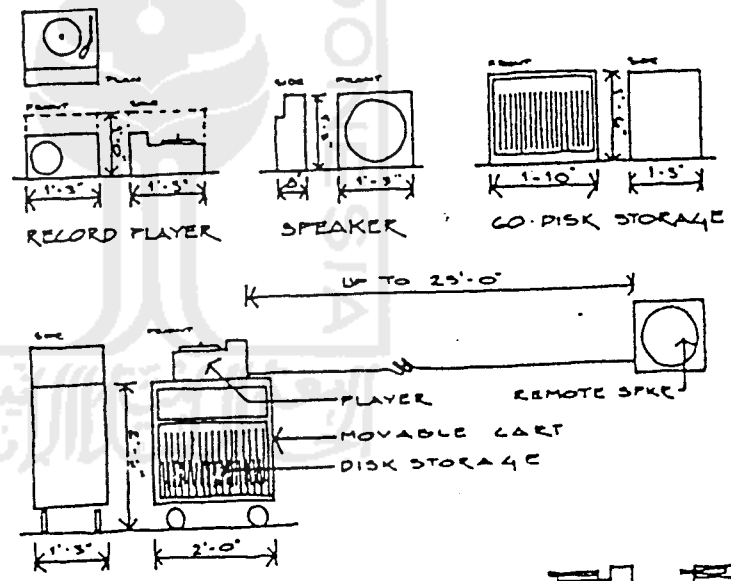


Fig. 2 Phonographs.

TAPE RECORDERS: PORTABLE

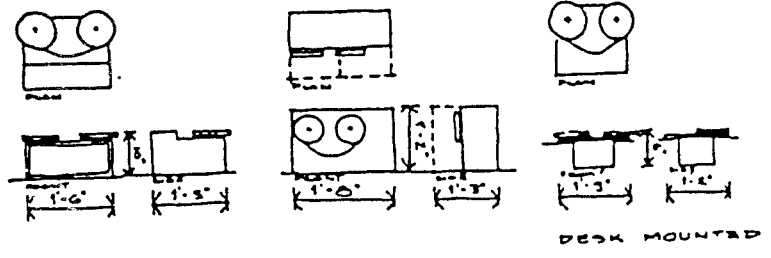
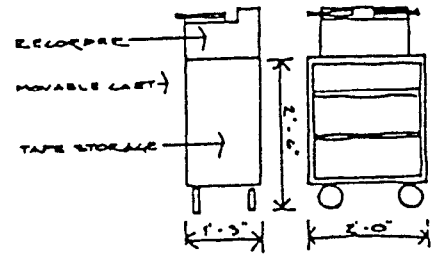


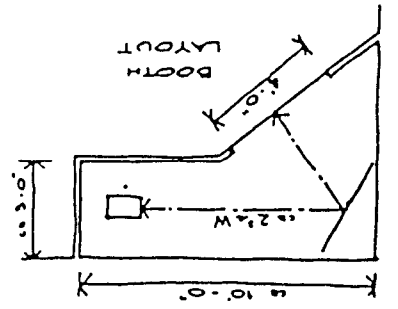
Fig. 3 Tape recorders.



Figures 1-17 reprinted from "New Spaces for Learning: Designing college facilities to utilize instructional aids and media." Report of Research Project DASFE: (Design of Auditorium-Studio Facilities for Engineering Education) supported by grant from Educational Facilities Laboratories, Inc., revised ed., June 1966.

BENTUK FASILITAS RUANG AUDIO VISUAL

Fig. 5 Reerscreen projection cabinet.



CLASSROOM LAYOUT

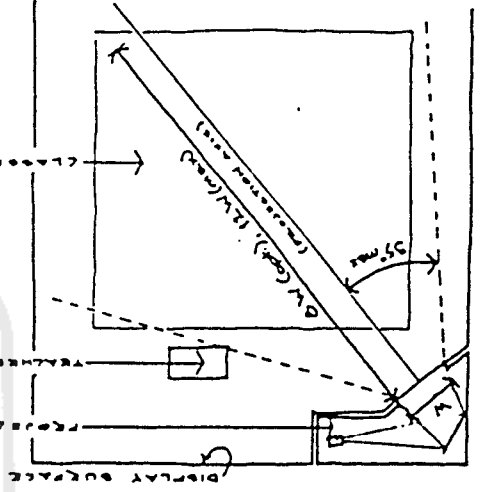


Fig. 6 Front projection screens.

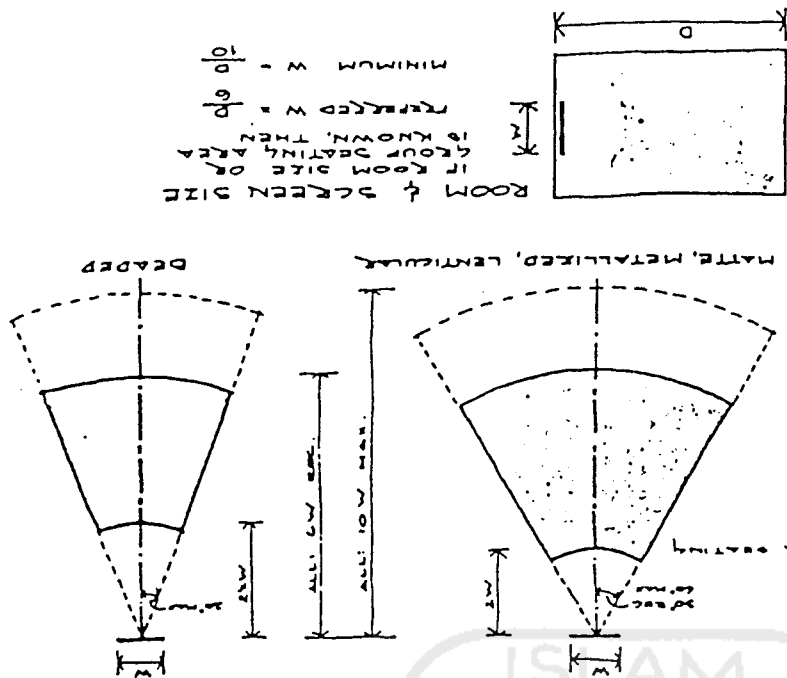
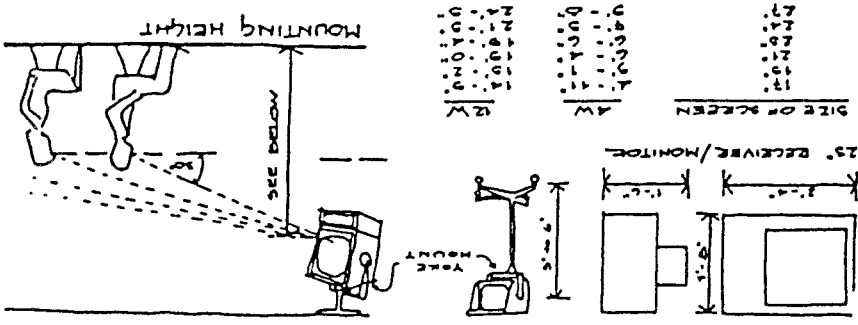
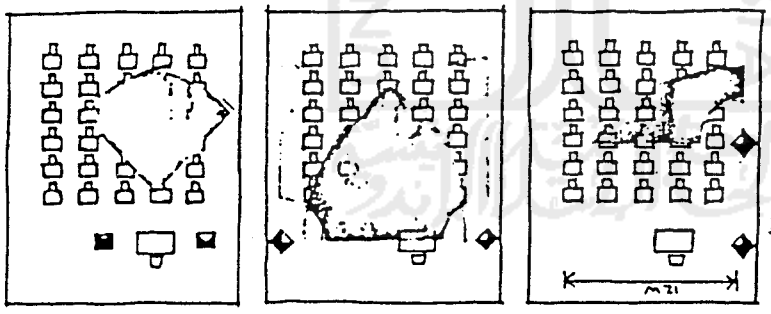


Fig. 4 Classroom monitors.

CLASSROOM WITH 2-23" MONITORS



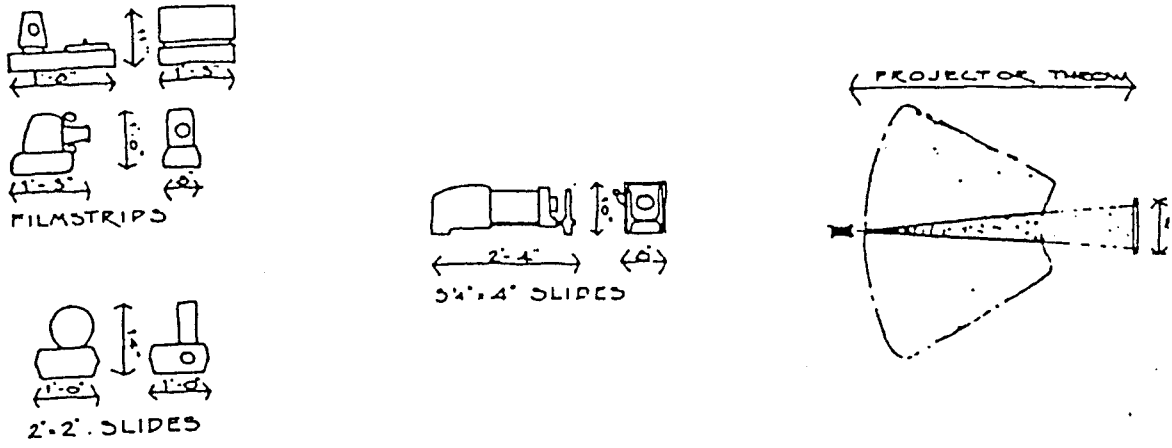


Fig. 7 Slides and filmstrips projectors.

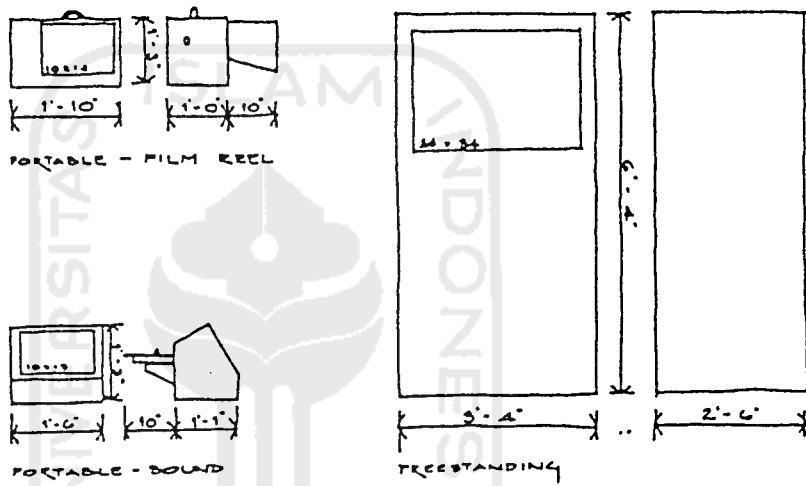


Fig. 8 Repetitive film projectors.

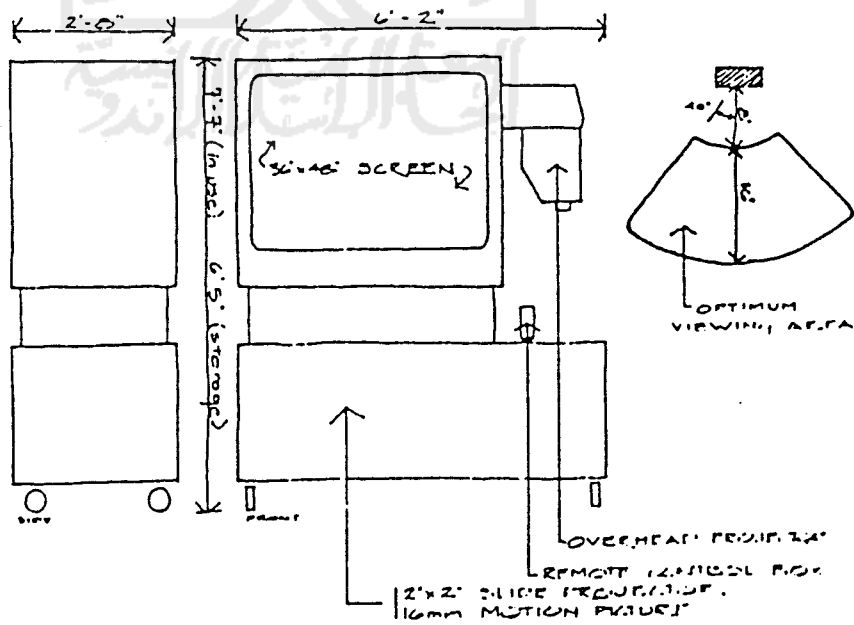


Fig. 9 Multiprojector console.

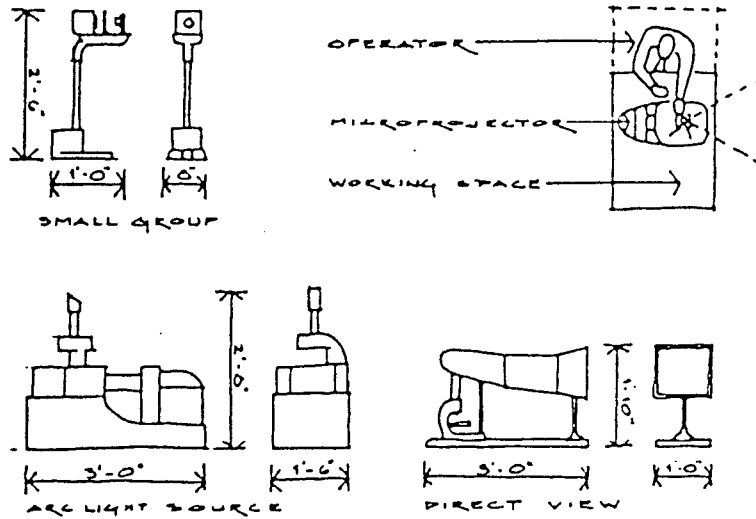


Fig. 10 Microprojectors.

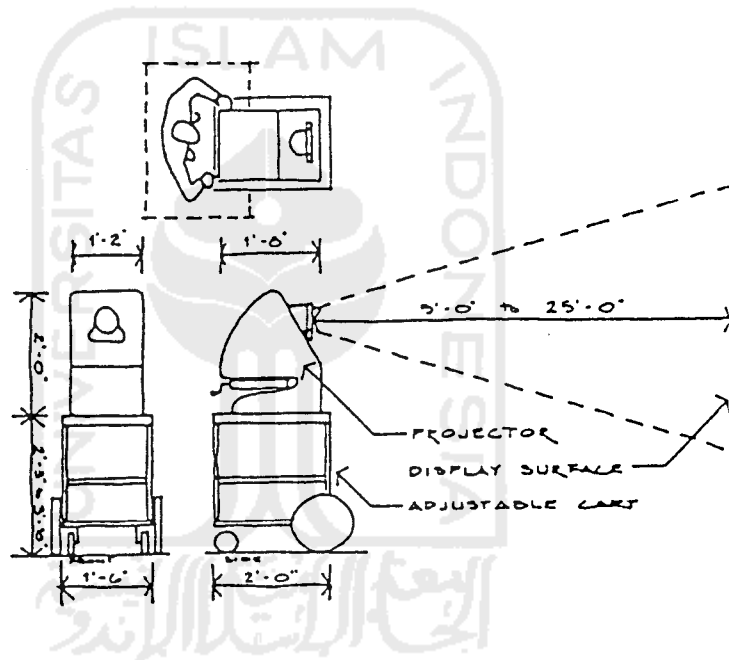


Fig. 11 Opaque projector.

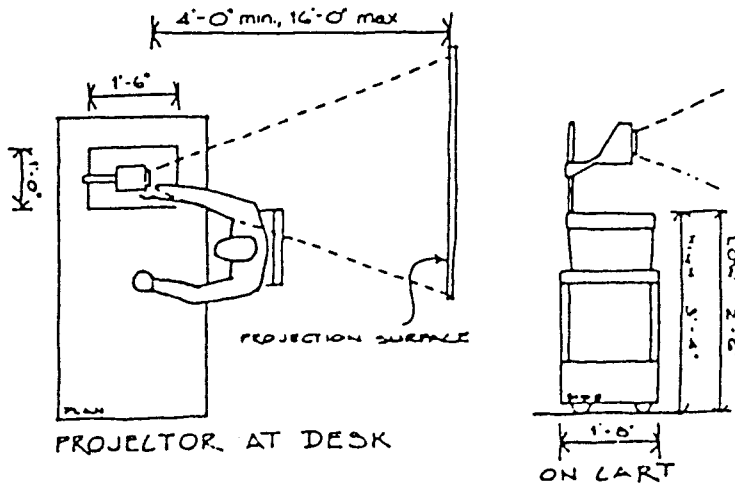


Fig. 12 Overhead projector.

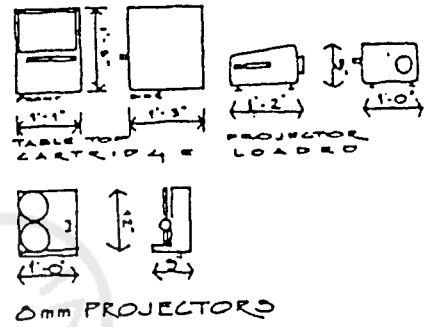
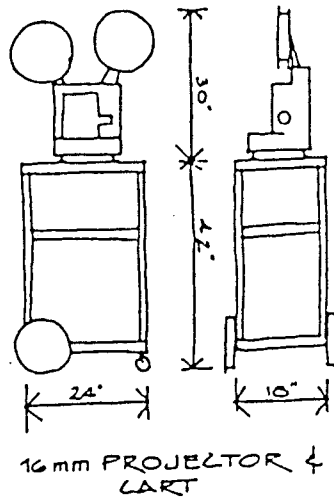


Fig. 13 8-mm and 16-mm motion-picture projectors.

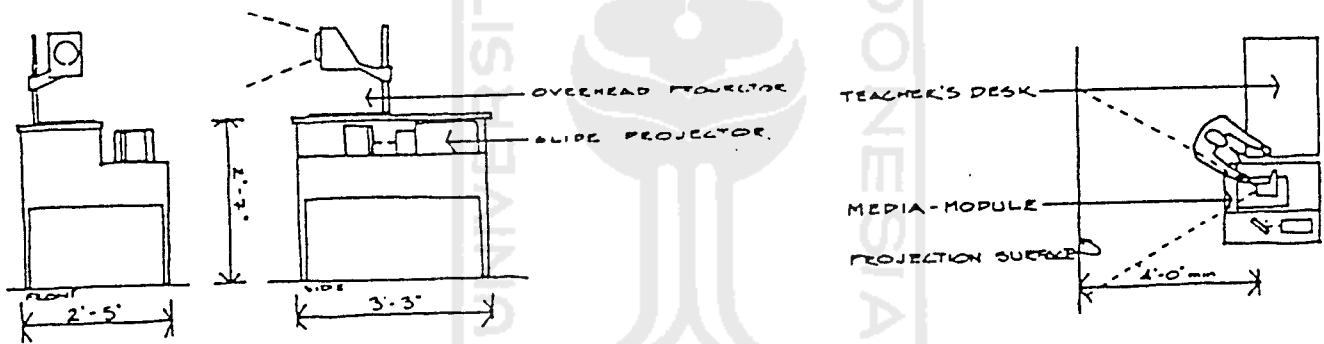


Fig. 14 Multiprojector module.

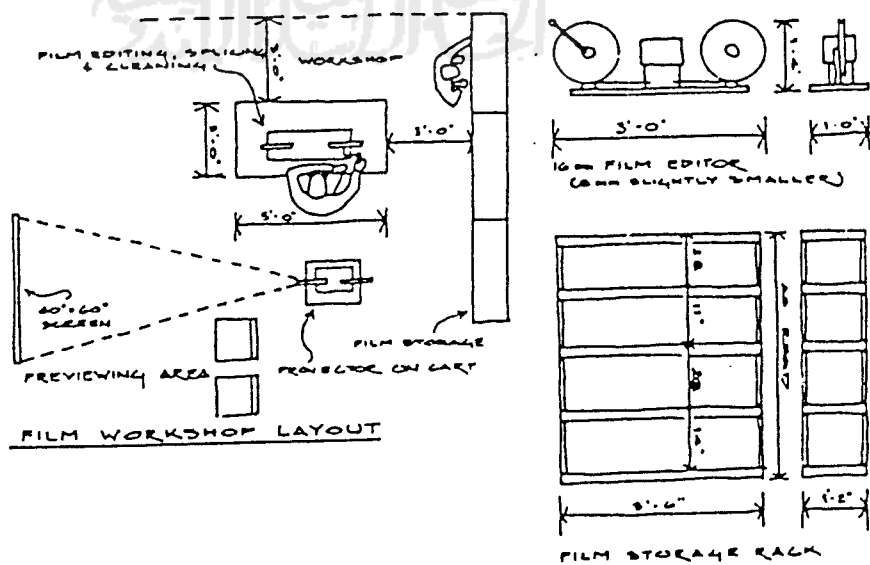


Fig. 15 Film workshop.