

SCHOOL BUILDING DIGEST 10.

Asian Regional Institute for School Building Research

(sponsored by Unesco)

P. O. Box 1368, Colombo, Ceylon.



A SIMPLE MULTIPURPOSE FURNITURE UNIT

D.
31 B 47

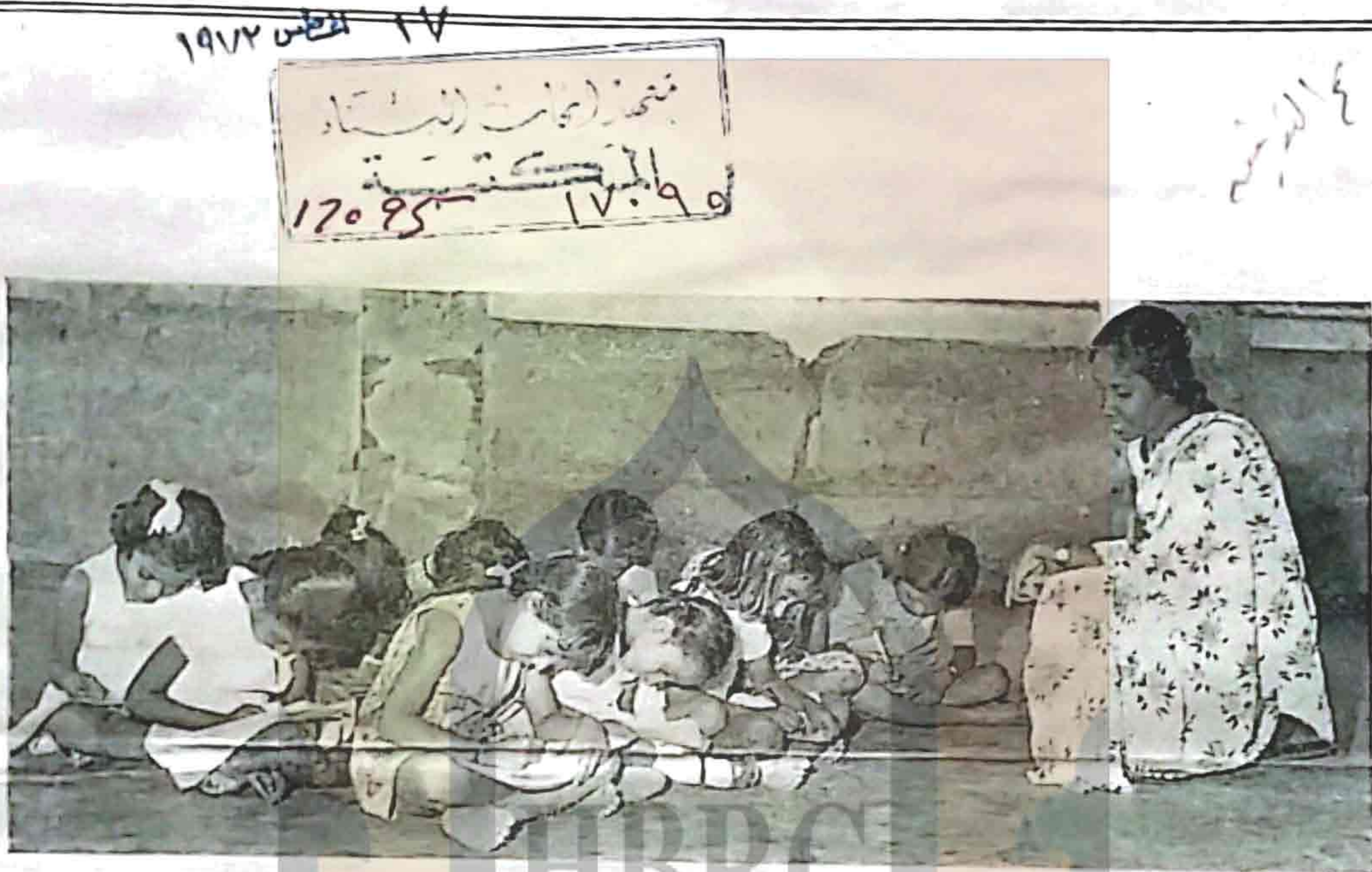


Plate A

المركز القومي لبحوث الإسكان والبناء

Housing & Building National Research Center

Since 1954

4 A 24

Introduction

No school can be considered complete without some basic furniture. In the Asian Region a number of countries, however, experience great difficulties in supplying furniture for their schools due to lack of funds. In these schools pupils sit on mats spread on the floor and place writing pads on their knees. This position is uncomfortable and the child will soon become tired.

The provision of low tables under which the child's knees fit easily would be a considerable improvement of the situation.

In many Asian countries people are used to squatting as it is a tradition, and low tables, which we call 'squatting tables' for the purpose of this paper, would provide a good and inexpensive working surface. The rainy season however in some countries, makes it impossible

to sit on the floor, even if it is covered with matting therefore in the classroom a piece of furniture is needed to sit on. Adult education and meetings demand furniture too, and also working and demonstration tables for standing work are required in each school.

The proposed unit will meet most of these requirements and the provision of 'squatting tables' would signify a great improvement of the existing situation in some countries. Even in countries where squatting is considered a less satisfactory position and it is preferred to sit on chairs and work at desks, the multi-purpose unit will offer a good temporary solution where funds for furniture are scarce and the country cannot bear the cost of supplying their schools with sufficient chairs, desks and other furniture. What is more important however, in the future when funds are available a chair and desk situation can be created by using the already available multi-purpose units.

The unit, its nature, its design

The unit is a box-type structure, 25 cm x 36.8 cm x 110 cm. Two sides (25 cm x 110 cm and 36.8 cm x 110 cm) are closed, the other sides are open.

The two closed sides serve as the working and/or sitting surface, as will be seen in this paper, and also as the stability elements of the unit.



Plate B

The units are designed in such a way that they are safe to be stacked on top of each other because they are 'locked' together so that they remain rigid and cannot be pushed over.

the Asian child, (see references No. 1,2) in all possible uses of the unit.

The unit is designed to fit the mean body sizes of

Where differences of sizes in a country are remarkable, the dimensions of the unit may need adaptation.

	Adult	14 - 15	12 - 13	10 - 11	8 - 9	6 - 7
Squatting Using the unit as a table to sit at.	X	X	X	X	X	X
Sitting Using the unit as a bench to sit on.	X	X	X	X	X	X
Standing Using the unit as a table to stand at.	X	X	X	X	X	X
Sitting Using the unit as a table to sit at.	X	X				

155cm						
148						
138						
128						
118						
111						
0						

Table 1 indicates the most important furniture items covered by this single unit, for the age range 6 years old to adult.

6 years	—	111 cm
7 years	—	113 cm
8 years	—	116 cm
9 years	—	121 cm
10 years	—	126 cm
11 years	—	131 cm
12 years	—	136 cm
13 years	—	141 cm
14 years	—	146 cm
15 years	—	151 cm
16 years	—	154 cm
17 years	—	155 cm
18 years	—	157 cm

Table 2 - Mean standing heights of the Asian child.

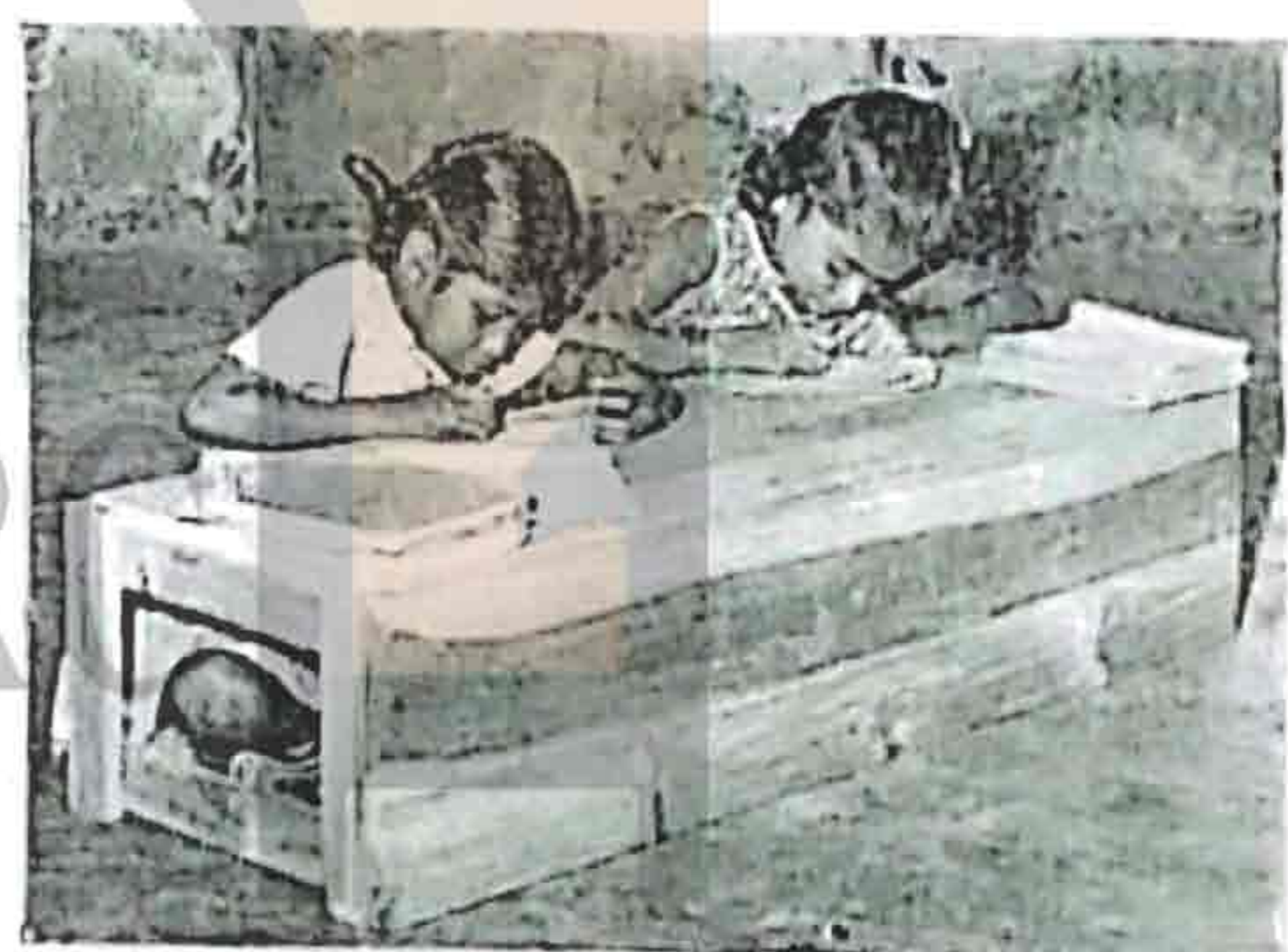
Squatting	—	Using the unit as a table to sit at.
Height of table	=	0,2 x mean standing height
Sitting	—	Using the unit as a bench to sit on.
Height of bench	=	0,26 x mean standing height
Standing work	—	Using the unit as a table to stand at.
Height of table	=	0,50 x mean standing height
Sitting	—	Using the unit as a table to sit at.
Height of table	=	0,41 x mean standing height

Table 3 - Ratios of critical dimensions of furniture to the standing height of the child.

The Multipurpose Unit and its Possible Uses

The unit, which has many uses as shown below, is designed so that it combines anthropometric data and simple methods of construction.

- 1. Use: Squatting.
- Age Group: 6 - 11 years old.
- Purpose: Writing or working surface. (Primary Education)



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- 2. Use: Squatting.
- Age Group: 12 - Adult.
- Purpose: Writing or working surface. (Secondary and Adult Education)
- Note: This squatting table is slightly too high and too narrow, but it is acceptable.

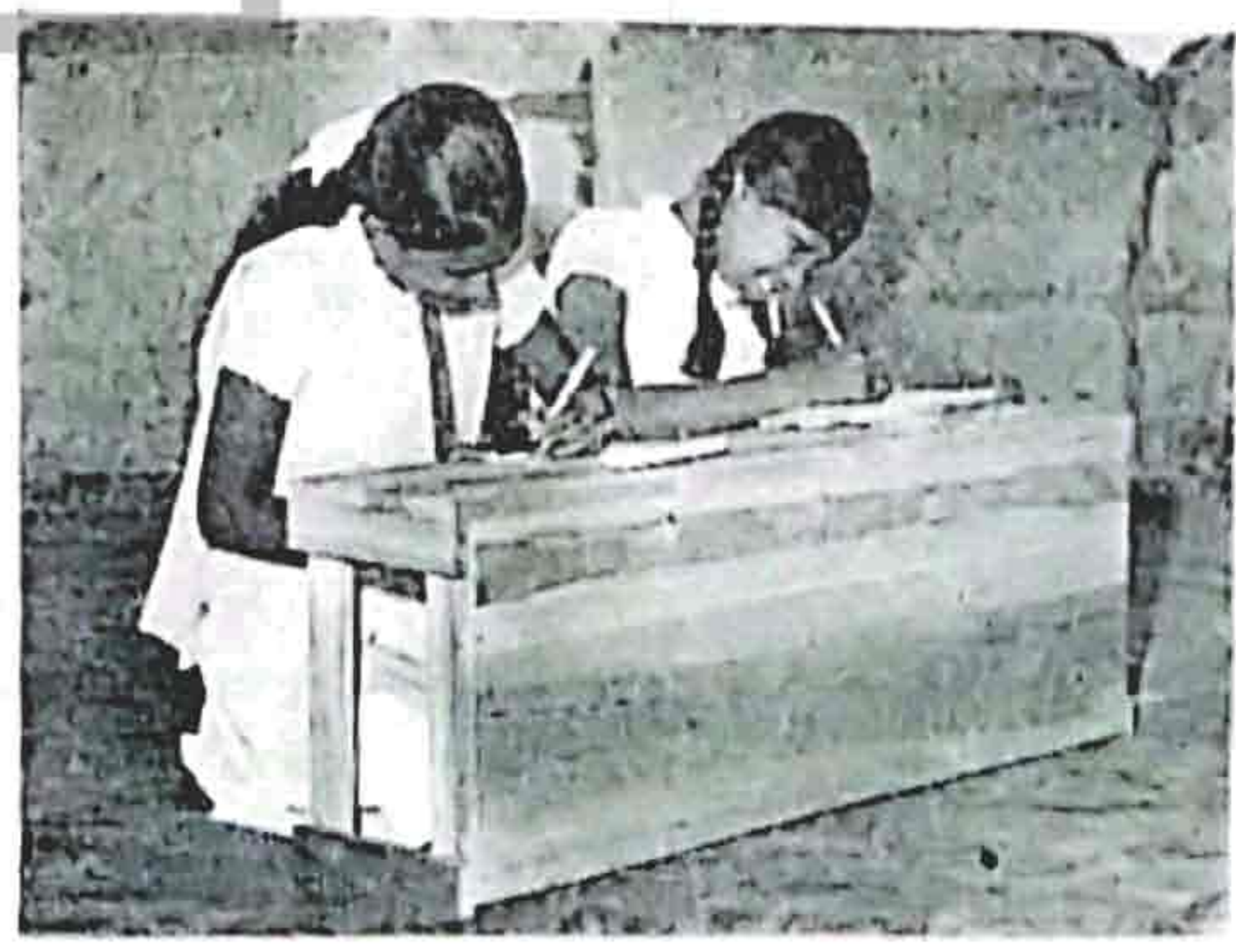


Plate 2