In all her methods of teaching her role as a communicator will be successful if she can:

1. Be brief-5 min. to 10 minutes is all that is needed;

2. Be simple-make one or two points clear, should-not confuse with too much information;

3 Be seen—Use visual aids and actual tools when possible;

4. Be heard–Speak loud to capture interest;

5. Be remembered—Use local events to illustrate—helps to remember.

The nurse is the team leader for health in the mini-centre in our comprehensive health programme. The strategy she will employ for finding her true role as a Health Educator is most remarkably brought out in the old Chinese poem :

Go to the people, Live among them;
Learn from them, Love them;
Start with what they know, Build on what they have;
But of the best leaders,
When their task is accomplished; Their work is done,
The people all remark;
"We have done it ourselves."

Lastly, in conclusion, I would like to leave this thought with you all. In our hospital which is a Church related hospital in which I am a member of a large team of workers and of associates, we have realized that we can only fulfil our mission if we realise soon that,

"If we offer only the gospel to the hungry of the world, without giving them bread to satisfy their hunger, we betray the gospel."

EDUCATION AND ADMINISTRATION : NEED FOR RESEARCH

B.K. NAYAR, C.R.S. RAO and S.S. GUPTA

The present paper by three scientists of the CSIR deals with some salient aspects of the current situation, and the need for research into problems connected with the education and employment of graduate nurses.

NURSING is a vital component of health services. Planning and development of high level nursing manpower has assumed great importance in the context of increasing stress on improved delivery of health care services in the country. Higher education, administration and research in the field of nursing require an adequate complement of specialists in various aspects of nursing.

Stock of Graduate Nurses

Nursing education at the degree level was started in India in 1948. The first outturn appears to have been in 1950. The outturn of graduate nurses in India from 1950 to 1974 is given in Table 1.

Table 1.
Outturn of graduate nurses in India, 1950 to 1974

Year	Outturn		
	Regular	Post Basic and Post-Certificate	Total
1950	14	—	14
1951	21	—	21
1952	30	—	30
1953	20		20
1954	29	—	29
1955	21	—	21
1956	32	—	32
1957	17	—	17
1958	24	—	24
1959	32	—	32
1960	25	—	25
1961	43	—	43
1962	49		49
1963	42		42
1964	58	—	58
1965	67	7	74
1966	70	10	80
1967	74	28	102
1968	110	22	132
1969	106	49	155
1970	101	63	164
1371	108	78	186
1972	123	84	207

1	2	3	4
1973	123	120	243
1974	117	90	207

Source : a) 1950-1969: Nursing Survey in India, Coordinating Agency for Health Planning, New Delhi, 1975, page. 302.
b) 1970-1974 : Report, Indian Nursing Council, New Delhi 1974, (mimeo).

The annual outturn was twenty to thirty during the 1950s. The outturn, restricted to those with a regular B.Sc. degree in nursing, increased to about 60 by 1964.

From 1965 onwards, the outturn included nurses with diplomas or certificates, who had subsequently graduated after completing suitably tailored courses leading to the Bachelor's degree in Nursing. The outturn of such personnel steadily increased from less than ten in 1965 to about 50 by the end of the 1960s. In the meantime, the outturn of graduates in nursing from the regular courses had crossed the 100 mark. At present, over 200 persons are qualifying annually for the B.Sc. degree in nursing, inclusive of the post-diploma and the post-certificate courses.

The trend in the outturn of regular graduates in nursing seems to have undergone a change more recently. Between 1968 and 1974, the increase in outturn was only 7 (showing an increase of 7%) compared to an increase of about 60 during the previous six years, during which the outturn had more than doubled. Meanwhile, the outturn of post-diploma and post-certificate nurses was increasing steadily, and had grown from about 20 to 90, an increase of 70 compared to 7 in the case of regular graduates. The outturn in 1974 appears to have been considerably less than the number in 1973 and only slightly larger than the outturn in 1972.

Whether the earlier growth had been excessive, whether there has been substantial changes in the employment market which have depressed the demand for degree holders in nursing, or these variations are merely indications of transient imbalances, needs examination. The pattern of employment, the incidence of unemployment, the avenues of advancement, etc., are all factors which condition the social appeal of an educational programme.

Post-graduate courses leading to the Master's Degree in nursing were started only from 1960. The M.Sc. outturn in nursing, at present, is about 20. A very small number of Indian nurses take post-graduate degrees abroad in public health and other specialised branches of nursing, after qualifying for a degree in India.

The stock of graduate nurses in India, including post-graduates, at present may be around 2,000.

Present Utilisation

A preliminary analysis of the organisational distribution of about 200 graduate nurses in the country at present, according to data so far collected by this Division, indicates that they are predominantly employed in hospitals. The percentages in different organisations are shown in Table 2.

Table 2
Organisational distribution of graduate nurses in India, 1976.

Organisation	Percentage employed
Hospitals	62
Colleges (a) Employed	19
(b) PG Students	1
Nursing and Lady Health Visitors Schools	9
Government Organisations	8
Research Institutions	1
Total	100

Over sixty percent of the graduate nurses are employed in hospitals, about twenty percent in nursing colleges, and about ten percent in schools for training nurses and lady health visitors. Establishments under the Central and State governments, other than those included above, employed one nurse out of a dozen. Hardly one percent was employed in research institutions.

With a ten percent sample representing the recent outturns from institutions predominantly in the north, it is difficult to say whether thirty percent in teaching institutions and one percent in research organisations is a true picture of the current employment pattern of graduate nurses. Research in medical technology is yet to achieve academic approbation in our country. We appear to have only one Indian nurse with a doctorate degree in nursing in the records of this Division.

The graduate nurses tend to congregate in the major cities. Bombay, Delhi, Madras, Chandigarh, and Ahmedabad appear to be leading in the number of graduate nurses. Calcutta seems to be a major exception.

Numbers Going Abroad

Information regarding nursing graduates who qualified in 1971 or later, and are known to have gone abroad, is given in Table 3. The actual number of graduate Indian nurses who have gone abroad is not known.

Table 3
Countrywise distribution of graduate Indian nurses who went abroad, 1976.

Country	Number
U.S.A.	10
Canada	3
Nepal	7
Thailand	2
Iran	3
Nigeria	1
Country not known	27
Total	53

Fifty three out of 450 who took the Bachelor's degree in Nursing in 1971 or later had gone abroad about whom information is available. This gives an order of magnitude of 12 percent or one out of eight. How far this proportion is applicable to persons who qualified prior to 1971, or even to the remaining 750 who qualified in 1971 or later, needs examination.

Even in the case of those who have gone abroad, the country to which they went is known only in half the cases. Apart from USA and Canada, Asian countries like Nepal, Iran and Thailand are also attracting our graduate nurses. At least one had gone to an African

country. What are the types of assignments our graduate nurses take up abroad? How many go for higher education or training ? How many hope to return?

High Level Nursing

A study of the pattern of utilisation of Nursing personnel, including graduates, at the Willingdon Hospital in New Delhi in 1973, carried out by the Institute of Applied Manpower Research revealed that sisters in wards, emergencies, and OPD, spend less time on direct and indirect patient-care, and that more time is spent by them in activities such as recording, attending to stores laundry work, and other miscellaneous work. The overall utilisation of sisters to the extent of 77 percent in wards, 80 percent in emergencies, and 81 percent in OPD was considered unsatisfactory. Besides, sisters in wards and emergencies were spending 20 percent and 16 percent of their time on "offstation" activities which appeared to be on the high side. The report suggested that the present system of the supply and accounting of drugs be reviewed, and the possibility of reducing offstation activity be examined so that sisters' time and skill are utilised more effectively.

Exclusive information regarding the utilisation of graduate nurses is not available at present. The Division for Scientific and Technical Personnel, Council of scientific and Industrial Research, New Delhi, has been enrolling graduate Indian nurses, who have been abroad for study, training or employment, in the Indians Abroad Register. Persons with high qualifications and valuable experience are offered temporary placements in the Scientists' Pool until they are absorbed in regular posts in India.

The General Register of Scientific and Technical Personnel maintained by this Division has the particulars of about 300 graduate and post-graduate Indian nurses. Persons with degrees in hospital administration or nursing administration are also registered. The data in the National Register form the base for various studies regarding availability and utilisation of qualified personnel in the country in different specialities. Bio-data of registered persons are also supplied in response to specific enquires from employing organisations, for acting as experts, for appointment to suitable position, etc.

This Division has recently started a study of Graduate Indian Nurses, to assess objectively their organisational and locational distribution, utilisation, activities, and other characteristics. Views of nurses, nursing administrators and nursing teachers regarding their working conditions, improvement in the syllabus for the B.Sc. and M.Sc. courses, better utilisation of their services, and career planning have also been solicited. Bio-data and views of persons holding B.Sc. Nursing and M.Sc. Nursing degrees are being collected and processed for an in-depth study. Principals of nursing colleges in the country have been contacted for their views on nursing education and for data regarding outturn of graduates and post-graduates in nursing. The study is in progress, and a report thereon is expected to be ready in a few months. In order to make the study as broad-based as possible, it is requested that those graduate nurses who may not have been contacted so far because of non-availability of address, or who have not filled in the cards sent to them, furnish requisite information. Cards are obtainable from : Division for Scientific and Technical Personnel, C.S.I.R. Complex, Library Avenue, Pusa, New Delhi 110 012.

AN EXPERIMENT IN CURRICULUM CHANGE

Miss ALEYAMMA P. KURIAN

The purpose of this study by Dr. Aleyamma Kurian, Principal, School of Nursing, Kolar, Karnataka, was to identify factorsthat facilitated or hindered the implementation phase of the curriculum change introduced in Christian School of Nursing under the Board of Nursing Education of the Christian Nurses' League of the Christian Medical Association of South India.

TWENTY faculty members and ten principals of the ten schools which introduced the new curriculum proposed by the Board of Nursing Education participated in a study by filling in a questionnaire. Information also was collected from the five schools which did not implement the new curriculum in order to identify those forces which hindered the change in the five schools.

The conceptual framework for the study was the concept of Kurt Lewin of the mechanism of the process of change and force-field analysis of social change applied to curriculum change and the concept of Gordon Mackenzie of the participants and focal points of curriculum change.

The findings of the study revealed that the changes made in the curriculum were those which were made in arrangement of number of hours for classes and rearrangement of the courses as had been presented in the curriculum. No attempt was made to introduce new content or institute a total change in curriculum.

Focal Points of Change

Factors which affected the implementation phase of change were those which were related to the organization as a whole, or to the personnel or external participants as focal points of change.

It was found that the application of Lewinian theory to the process of curriculum change was useful in understanding the process of change and controlling the change process. But it was difficult to identify the stages of change, especially at the individual respondent's level. Force-field analysis was found to be a useful tool in identifying in a systematic way the forces that might influence the change process in curriculum.

Mackenzie's concept of the participants in a change and focal points of change helped in recognizing what changes accrued in the curriculum, but it did not help to understand the complexity of the change process.

Implications and recommendations are given in the last chapter of the study. It is hoped that this study will contribute to an increased understanding of the change process and factors influencing the process so that it will be possible to manage change in nursing education more skilfully in the future.