72-3439

SUKHWAL, Lilawati, 1936-
THE IMPACT OF AMERICAN EDUCATION ON INDIAN SECONDARY SCHOOLS WITH SPECIAL REFERENCE TO RAJASTHAN.

The University of Oklahoma, Ph.D., 1971
Education, general

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1971

LILAWATI SUKHWAL

ALL RIGHTS RESERVED

THIS DISSERTATION HAS BEEN MICROFLIMED EXACTLY AS RECEIVED

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/3151

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE IMPACT OF AMERICAN EDUCATION ON INDIAN SECONDARY SCHOOLS WITH SPECIAL REFERENCE TO RAJASTHAN

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

LILAWATI SUKHWAL

Norman, Oklahoma

1971

THE IMPACT OF AMERICAN EDUCATION ON INDIAN SECONDARY SCHOOLS WITH SPECIAL REFERENCE TO RAJASTHAN

APPROVED BY

DISSERTATION COMMITTEE

PLEASE NOTE:

Some Pages have indistinct print. Filmed as received.

UNIVERSITY MICROFILMS

ACKNOWLEDGMENTS

An expression of sincere appreciation is extended to Dr. Robert F. Bibens, chairman of this dissertation and graduate program, whose personal interest and enthusiasm has made this study a reality. The author expresses her sincere thanks and gratitude to Dr. Bibens for his expert guidance, assistance and patience in completing this study.

A special debt of gratitude is also extended to my committee members, Dr. Glenn R. Snider, Dr. Jack F. Parker, and Dr. Chipman Stuart for their scholarly criticism, advice and encouragement throughout the author's graduate program.

The author wishes to express her thanks to the educational authorities she interviewed. Special thanks are due to Mr. R. Grant Smith, India desk, Department of State; Mr. Wilbur M. Waffle, Education officer, Bureau of Near East and South Asia, Department of State A.I.D.; the Board of Secondary Education, Rajasthan, Ajmer; the Ministry of Education, government of India, New Delhi; the Rajasthan Directorate of Education, Bikaner; the Embassy of India, Washington, D.C.; and the Ford Foundation, Washington, D.C., for their generous help in providing valuable source materials.

Appreciation is due to the Graduate College of the University of Oklahoma, Norman, for financial assistance on

various occasions during the graduate program and the preparation of this dissertation.

The author is also highly indebted to Mr. and Mrs. Edgar W. Brewer, who provided her the opportunity to come to the United States. Thanks are likewise due to Professor Balfour S. Whitney for his fatherly affection to the author and her family.

A special apology is here rendered to my son, Aditya, and daughter, Archna; the time spent preparing this study was not spent with them.

To my parents, Shri Jai Devji and Shrimati Bimla Sharma, and to my husband, Bherulal, I respectfully dedicate this dissertation, for without their encouragement, understanding and patience, it would have been impossible.

TABLE OF CONTENTS

	Page
LIST OF TABLES	viii
LIST OF ILLUSTRATIONS	ix
Chapter	
I. INTRODUCTION	1
Background and Need	1
Purpose of the Study	6
Statement of the Problem	6
Limitations of the Study	7
Significance of the Study	8
Procedures	8
Definition of Terms	9
Organization of the Study	12
II. HISTORICAL BACKGROUND	14
Ancient Period	15
Vedic Period	15
Buddhist Period	20
Medieval or Mohammedan Period	23
British Period	26
1772-1854	27
1854-1902	29
1902-1921	32
1921-1947	32
Independent Period	35
III. THE ORGANIZATION AND CURRICULUM OF SECONDARY SCHOOLS IN INDIA AND IN THE STATE OF RAJASTHAN	58
Organization	59

Chapter Page

Administrative Organization 59
Management 67

The Government Schools 67
The Panchayat Samiti Schools 69
Private Schools 70
Public Schools 72
Technical Schools and Industrial Training 74

Grade Organization 76
Common Schools or Neighborhood Schools . 84

Curriculum 86

General Education 89

Languages 92
Elementary Mathematics 97
General Science 98
Social Studies 99
Work-Experience, Social Service, and Community Living 101
Physical Education 104
Education on Social, Moral and Spiritual Values 106

Electives or Optional Subjects 106
Co-Curricular Activities 112

Literary Activities 113
Debate 114
Creative Writing 115
Recitation 115
Cultural Activities 116
Physical Education 117

Games and Sports 117
Swimming and Gymnastics 118

Scouting and Guiding 118
National Cadet Corps/Auxiliary Cadet Corps 119
Community Service 120
Educational Tours 120
Student Government 121

Guidance Program 123

Chapter Page

IV. TEACHING METHODS, EXAMINATION AND EVALUATION, AND TEACHER EDUCATION OF SECONDARY SCHOOLS OF INDIA AND IN THE STATE OF RAJASTHAN . . . 131

Teaching Methods 132

Techniques and Devices 133
Physical Facilities 141

Class Size 141
Other Physical Facilities 143

Instructional Material 144
Programmed Learning 146
Textbooks 147
Homework 150
Teacher Pupil Relationship 152

Examination and Evaluation 155

The Examination System 157
Weaknesses of the Examination System . . 161
New Type of Questions 172
Internal Assessment 173

Teacher Education 180

Secondary School Teachers Training Program 181
Regional Colleges 187
Extension Services 191
Inservice Education 195
Training for Administrators 201

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . 207

Summary of Findings 208
Conclusions 212
Recommendations 213

General Recommendations 213
Recommendations for Further Research . . 215

BIBLIOGRAPHY 216

APPENDIX 226

LIST OF TABLES

Table		Page
1.	Achievements and Targets, Five Year Plans, India	43
2.	Number of Students at School Stage, Rajasthan	49
3.	Organization and Administration of Education in Rajasthan	63
4.	Existing Patterns of Grades	77
5.	Grade Organization Revised Nomenclature	80
6.	The Study of Languages at School	95
7.	Optionals Offered in Rajasthan	108
8.	Number and Percentage of Distribution of Secondary Sections (IX-XI) According to Pupil-Teacher Ratio	142
9.	Examination System in Different States	158
10.	Number of Students from the Government and Private Schools in Higher Secondary and Secondary School Examinations of the Rajasthan Board in 1970	167
11.	Number of Students in Subject Groups in the Higher-Secondary and Secondary School Examinations of 1970	168

LIST OF ILLUSTRATIONS

Figure		Page
1.	India With Administrative Divisions	46
2.	State Educational Budget 1965-66	48
3.	Ford Foundation Assisted Projects in Education, 1969	56
4.	Administrative Districts of Rajasthan	61
5.	Decision Teaching Strategy	140

THE IMPACT OF AMERICAN EDUCATION ON INDIAN SECONDARY SCHOOLS WITH SPECIAL REFERENCE TO RAJASTHAN

CHAPTER I

INTRODUCTION

Background and Need

Educational institutions are to a great extent a mirror of the hopes, aspirations, beliefs, and ideals of a nation and enable one to understand its civilization. Education has always been honored in the Indian society. In 1947 India emerged from 150 years of colonial rule and became the world's largest democracy. The Constitution of the new republic embodies the highest traditions of democracy known to mankind, and draws heavily on U.S., Canadian, and British traditions and experiences. To achieve an equilization of educational opportunities "the Constitution had to adopt a model more in keeping with democratic traditions and it is not surprising that the model of the U.S.A. where education is a state subject was selected for the purpose."[1] The decision was made to treat education as a state matter.

---

[1] J. P. Naik, Educational Planning in India (New Delhi: Allied Publishers, 1965), p. 148.

However, the government of India felt obligated to discharge educational functions, and since 1947 the central government has played a definite and positive role in planning and financing education for the country.

In the post-independence period education has progressed in an irregular fashion in the various Indian states. Some states have experienced rapid educational progress while others have developed more slowly. For example, in 1951 Rajasthan was the most backward state in the country with a literacy rate of 8.9 per cent. However, by 1967 literacy in Rajasthan had increased to 24 per cent, and the standards and quality of education in the state, both at the elementary and secondary levels, is comparatively higher than in the other Indian states. The salaries of the teachers are among the highest in the nation.

Another major difference seen among the states is in school structure, organization, and curriculum. Some states have high schools through 10 years and others, including Rajasthan, use higher secondary schools with an additional year. Similarly, in some states formal education terminates after the tenth grade and in others after grade eleven. Rajasthan falls in the first category. The states also differ in school syllabi, courses offered, teaching practices, and teacher training programs.

"The importance of secondary education in a democratic society is beyond question, and yet it has been

admitted that this has generally been considered as the weakest like in the Indian educational chain."[2] The broad system of education in the country is inherited from abroad and the planning is based on Macaulay's Filtration Theory. Macaulay prepared a scheme by which education was imparted to a few selected individuals rather than to the masses. Education was expected to produce clerks and subordinate officers for the imperial government, and was based on the 3 R's. "Ever since that time Indian education has been predominantly a white-collar, bookish, and data-packing schooling intended to give social and professional status rather than to foster understanding or character development."[3] While English education served as a passport for getting jobs, it has never met either the needs of the youth or the society.

In recent years, secondary education has been viewed as the prime means for national development. The great national Indian leaders and educationists recognize education as the sole medium for bringing about economic, technical, and social development, and for creating a truly democratic society. The role of secondary education is described by Porter Willis as follows:

---

[2]Humayun Kabir, Education in India (London: George Allen and Unwin Ltd., 1956), p. 42.

[3]Edmund King, Other Schools and Ours: A Comparative Study of Today, 3rd ed. (New York: Holt, Rinehart and Winston, Inc., 1967), p. 278.

> In middle and lower grades of many branches of economic life in administration, rural development, commerce, industry, and the professions, the requirements of trained manpower have to be met after the necessary training by-product of secondary schools.[4]

To bring about desired changes and improvements in education the government of India, with the close cooperation of the various state governments, appointed several commissions, and since 1951, India launched a series of five-year plans. "The first plan laid great stress on agriculture and the second on industry, and the third, which began in 1961, recognized the development of education."[5] The fourth plan emphasized all fields of education, and especially the improvement of teacher education. Secondary education has been improved and refined and student enrollment has swollen to six times the enrollment of 1951. To accomplish these changes some educational ideas and practices have been imported from other countries. Many of India's educational problems, though different in degree, have been recognized as similar to those encountered by the United States, either before or during its own educational revolution. Since the early 1960's a close cooperation has developed between India and the United States pertaining to the development of Indian education.

---

[4]Porter Willis, "Secondary Education in India," High School Journal, L, No. 4 (January, 1967), 193.

[5]Ellsworth S. Obourn, "India Trains Teachers for a New Age," American Education, I, No. 3 (March, 1965), 16.

The United States is providing aid through educational channels to other nations to achieve their goals of peaceful and humane national development. This assistance is referred to as "foreign aid" or "technical assistance" to young and developing countries. India has sought this type of assistance through technical and professional personnel, exchange programs, and through the establishment of projects for teachers, administrators, and students. This cooperation has been promoted through the United States Agency for International Development (A.I.D.), the Ford Foundation, the U.S. Educational Foundation in India, the U.S. National Science Foundation, the U.S. Department of Health, Education, and Welfare, and various other educational institutions.

The changes sought in Indian secondary education through the cooperative ventures of India and the United States have revolutioned Indian schools, but it is just the beginning. Indian secondary education needs proper planning, clearly defined objectives, and a suitable curriculum to keep up with the progress of the world. It must serve its people, their needs and interests and should be based on social realities and democratic ideals. India is attempting to achieve the development of hundreds of years in a few decades. Recent educational achievements are very encouraging, and a bright future can be predicted.

Purpose of the Study

The present study was designed to determine the degree to which Indian secondary education has been influenced by American educational practices in the years since Indian independence in 1947. Specifically, this study was intended to explore the impact of these practices on secondary school organization, curriculum, teaching methods, testing and evaluation, and teacher education in the secondary schools of India with a special reference to Rajasthan.

Statement of the Problem

The problem of this study was to identify, investigate, and evaluate the changing spectrum of Rajasthan secondary schools since independence in terms of the influence of American secondary education in India. More specifically the study was intended to:

1. identify the changes which have taken place in secondary school organization, curriculum, teaching methods, testing and evaluation, and teacher education of Rajasthan as a result of the influence of American education on Indian education;

2. analyse the findings in the specified areas on Indian secondary education and to assess the over-all general effect of American education on the secondary schools in Rajasthan;

3. assess the changes in terms of the local and national needs and social ideals of the country; and

4. determine further changes in secondary education as viewed by educational authorities and personnel of the nation and state of Rajasthan.

It was also intended to examine briefly the influences of other foreign nations on Indian secondary education.

Limitations of the Study

1. This study was limited to the educational development of Indian secondary schools since independence, i.e., August 15, 1947.

2. The study was further limited to the evaluation of the American educational impact with reference to organization, curriculum, teaching methods, examination and evaluation, and teacher education procedures of Rajasthan secondary schools.

3. The study was limited to the high/higher secondary schools in India; however, mention has been made of middle schools when it has been pertinent to secondary education.

4. This study was also limited to secondary education in Rajasthan; however, other states were mentioned whenever appropriate.

Significance of the Study

Significant changes are being made in the secondary education of India both at the central and state levels, drawn from the American experiences. The secondary schools of Rajasthan have been revolutionized, influenced, and advanced by the implementation of American educational practices. This effort may provide an insight into the causes and explanations for expansion and changes in efforts to achieve quality education. The investigation may contribute information needed for evaluating the present structure and may suggest directions for further improvements in the fields of organization, curriculum, teaching methods, testing and evaluation, and teacher education. It may also pave the way for additional research in specific areas of Indian secondary education.

Procedures

The descriptive historical method of investigation was used to accomplish the aim of this study. The following procedures were used:

1. The first step was to review the existing literature pertaining to the study.

   (a) For the review of literature, the libraries of the University of Oklahoma, Norman; the University of Wisconsin, Madison; the University of Rajasthan, Jaipur, India; and the Information Service, Embassy

of India, Washington, D.C., were utilized.

(b) Documents produced by the government of India and the United States were used.

(c) Departmental reports published by the various government offices were obtained.

(d) U.S., A.I.D. reports of projects concerning Indian education were examined.

(e) Reports published by various U.S. and Indian agencies were reviewed.

2. The writer interviewed various authorities both at the national governmental and state levels who are engaged in planning, programming, implementing, financing, and practicing education.

3. Some of the secondary/higher secondary schools of Rajasthan were visited to discuss with the teachers and principals the present educational practices.

4. A letter of inquiry was sent to each state to both the Director of Education and the Chairman, Board of Secondary Education.

5. Several tables and maps have been prepared to compare and show the differences in progress achieved in education by various states.

Definition of Terms

Secondary education: the period of education, whether public or private, which usually consists of grades 6-11 as

indicated by Good[6] during which (1) pupils learn to use independently the tools of learning that they have previously mastered, in which education is differentiated in varying degrees according to the needs and interests of the pupils, and which may be either terminal or preparatory; (2) education that is particularly adapted to the needs of adolescents.

Government schools: tuition free, or with insignificant fees or charges; schools open to all children without discrimination. These schools are secular in nature and are supported by the state government.

Aided schools: private schools which seek aid from the state governments.

Public schools: established during the British regime for Indian princes and the sons of royal families and English officers. Today, these schools are open to all students, but they are very expensive, and admission is based on difficult entrance examinations.

Girls and boys schools: schools segregated by sex.

Co-education: the education of boys and girls together.

Multipurpose higher secondary schools: secondary schools consisting of grades 9-11. They offer general education courses common to all and a wide variety of optional (elective) subjects in the fields of humanities, sciences,

---

[6]Carter V. Good, Dictionary of Education (New York: McGraw Hill Book Company, Inc., 1945), p. 364.

agriculture, home science, fine arts, and commerce. Similar schools are known as comprehensive high schools in the United States.

Secondary and Junior secondary schools: schools providing instruction in general education with provisions for electives. However, the student must participate in examinations in all subjects at the end of the tenth grade.

Middle school: consists of grades six through eight.

Curriculum: consists of all planned experiences and activities for students, such as general education, electives, co-curricular activities, and school guidance programs. Most of the time the term is used to denote general education and elective parts of the institutional offerings.

Syllabus: the plan of a course of teaching, usually setting out the main headings of subject matter in a particular subject. The term may also be used to cover the requirements for an examination.[7]

Compulsory subjects: subjects offered in secondary schools common to all students, such as three languages, mathematics, general science, social studies, and one craft elected by the student.

Optional subjects: subjects elected by the student in the ninth grade on the basis of his needs, interests, abilities, and on the recommendations of teachers.

---

[7]H. C. Bernard and J. A. Lawerys, A Handbook of British Educational Terms (London: George G. Harrap and Company, Ltd., 1963), p. 184.

Board of Education: A statutory and autonomous body authorized and charged with the responsibility of conducting examinations for high schools or higher secondary schools. It also appoints examiners, and prescribes course syllabi and textbooks.

Director of Education: a top education administrator of the state responsible for secondary and elementary education.

Headmaster/Headmistress: principal of boys' or girls' school responsible for administration, management, and improvement of instruction. This is a similar position to the high school principal in the United States.

Wastage: when a student fails the grade and is withdrawn from the school.

Stagnation: when a student spends more than a year in one grade.

Organization of the Study

Chapter One, Introduction, of this study indicates the background, need, purpose, and significance of the investigation. Chapter Two deals with the historical development of Indian secondary schools during the Ancient, Medieval and British periods and after independence.

Chapter Three, Organization and Curriculum, is devoted to the organization of educational administration, structure, grade arrangements, and changing curriculum of

secondary schools of Rajasthan on the American pattern. Curriculum deals with general education, electives, co-curricular activities and guidance program. "Teaching methods," "examination and evaluation," and "teacher education," have been discussed in Chapter Four.

Chapter Five is a summary of the findings, the conclusions, and some recommendations for future study.

CHAPTER II

HISTORICAL DEVELOPMENT

India, a cradle of civilization with rich educational traditions, is one of the oldest nations of the world. Its highly developed educational system can be traced back about 4,000 years to an age when many of the modern and highly developed countries were passing through pre-historic times. Dr. F. W. Thomas, one of the indologists, says about the education of India,

> Education is not exotic in India. There is no country where the love of learning has so early an origin or has exercised so lasting and powerful an influence. From the simple poets of Vedic Age to the Bengali philosopher of the present day there has been an uninterrupted succession of teachers and scholars.[1]

This indicates the superiority and advancement of education in India when the western world was still in its infancy.

India's contribution to science, mathematics, humanity and literature is incredible. The zero was first introduced by Indians, and the system of numerical notation which came to the West through the Arabs was invented in India. Throughout Indian history there have been political ups and

---

[1]F. W. Thomas, History and Prospects of British Education in India (London: George Bell and Sons, 1891), p. 1.

downs, and Indian education has been affected by these historical, political, and social events. Despite the changes, medical sciences, arts, crafts, mathematics, and literature have always been the common features of Indian education. The long and complex educational history of India can be divided into four major periods: (1) the Ancient Period (to 1200 A.D.), (2) the Medieval Period (1200 to 1772 A.D.), (3) the British Period (1772 to 1947), and (4) the Independent Period (1947 to present). Each period has had its unique characteristics and the product of all of them is the present existing educational system.

Ancient Period

The ancient period began about 2500 B.C. when Aryans entered India many centuries before the Christian era. The tall, fair-skinned Aryans brought religion, language, customs, and a new culture, which spread throughout northern India. The influence of this culture is evident in present day India. For a better understanding of ancient Indian education this era can be referred to as (a) the Vedic Period, and (b) the Buddhist Period.

Vedic Period

Four Vedas[2] were written in this period. Rig-Veda is the oldest of all these written works and also the

---

[2]The ancient sacred literature of Hinduism.

earliest work in the Indo-European languages, and of the human race. "One thing is certain," says Max Muller, "that there is nothing more primitive, more ancient than the hymns of the Rig-Veda, whether in India or the whole Aryan world. Being Aryan in language and thought, the Rig-Veda is the most ancient of our books."[3] Yajur-Veda, Sama-Veda, and Atharva-Veda are three other Vedas besides Brahmana,[4] 18 Puranas,[5] and 108 or more Upanisads[6] (12 of them are generally recognized as the principal units), which were written during this period. "The excavation at Harappa and Mohenjo-Daro and those in Saurastra have disclosed the existence of a highly evolved culture long before the Aryan immigration, perhaps dating back to 300 B.C. or before."[7] This advanced culture was benefited by the Aryan invasion because of cultural mixing.

---

[3]Radha Kumud Mookerji, Ancient Indian Education (London: MacMillan and Company, Ltd., 1947), p. 17.

[4]One of a class of prose pieces dealing with Vedic rituals and sacrifices.

[5]A large number of traditional collections of epics, myths, popular lore, etc., embodying the principles of popular Hindu religion and ethics, originally transmitted orally and later written.

[6]The Upanisads represent a strong reaction against the merely ritual and sacrificial duties which earlier had been stressed.

[7]Humayun Kabir (Chairman), The Gazetteer of India, Vol. I (New Delhi: Publication Division, Ministry of Information and Broadcasting, Government of India, 1965), p. 414.

Vedic education was intended to promote ethical and spiritual values and a well-rounded development of the individual. The purpose of this education was not to promote mere economic growth but to enable one to lead the highest possible life. "The main idea was to bring the humblest man the highest product of human mind and heart."[8] To achieve those objectives, education was imparted in three stages. Early education was scheduled at home for three or four years before Upnayan Sanskar (the initiation ceremony). After this ceremonial bath, at the age of eight or nine, the child was sent out to a Guru or teacher's home (Gurukula) for a minimum period of eight years or until the obligatory study was completed. Before stepping into adulthood and family life, he had to spend four or five years in higher education of a critical nature acquiring the professional skills of the priesthood, medicine, or surgery. This stage was optional. These three steps could be equated with the elementary, secondary, and higher education of modern times.

The curriculum at the primary level consisted of reading, writing, elements of grammar, and elementary arithmetic. The regular and formal study (secondary stage) included the "proper recitation of Vedas as prominent part, training in the auxiliary texts needed for the understanding

---

[8]S. N. Mukerji, History of Education in India: Modern Period (Baroda: Acharya Book Depot, 1966), p. 2.

of Vedic texts (which included phonetics, rules about Yagas and Sacraments, Law, Grammar, Etymology, Prosody, Astronomy, etc.)."[9] Veda Mitra has divided the school syllabus systematically, according to the chronological age of the student:

> Alphabets at the age of 6 years, elementary Grammar and Sidha Composition at 8, Sutras (A precept of summarizing Vedic teaching) of Panini at 10, Books on three Khilas including details of Grammar and composition at 13, Laws of Universe and regulations of Gods and men including elementary sciences, History and Mythology at 15, Vedangas (parts of Vedas) at 20, specialization in one of the professional Vidhyas (training) like medicine, etc. at 22 for two years for higher studies.[10]

Higher education was mainly professional and led towards specialization. It is interesting to note that higher education was in the beginning confined to Brahmins (the priestly class) and later was opened for two other castes, the Kshatriya (the nobles and warriors) and the Vaishyas (the business class). Most foreigners and even some Indians have mistakenly believed that Indian higher education was merely a study of Vedas. The nature of higher learning was religious, ethical, and secular, and included Ithihas Purana (legends and ancient lore), Pitra (science relating to Manes), Rasi (mathematics), Daiva (knowledge of parents), Nidhi (chronology), Vakovakyas (dialects), Exayana (ethics),

---

[9]Kunhan C. Raja, Some Aspects of Education in Ancient India (Madras: The Vasanta Press, 1950), p. 99.

[10]Veda Mitra, Education in Ancient India (New Delhi: Arya Book Depot, 1964), p. 99.

Deva Vidhya (etymological interpretation of divine names), Brahama Vidhya (knowledge of absolute), Bhut Vidhya (demonology, or a treatise on demons), Kshtra Vidhya (military science), Nakhtra Vidhya (astronomy), and Sarap Vidhya (sciences of snakes).[11] Universities were scattered all over India, Taxila being the most famous. Many books were written by the professors and scholars, on medicine, surgery, politics, economics, and literature.

The method of teaching was oral instruction and the memorization of texts, and students had to devote long hours to the mastery of required subjects. The knowledge was transmitted from teacher to pupil and preserved, generation after generation. Instruction was individualized and personalized, and the intelligent and industrious student could complete his education in a shorter period of time than could a less talented one. There were no formal paper and pencil tests, and consequently no mass failure or promotion. It could be said that there was an examination each night, for no new lesson was given until the previous one was mastered. A student lived with his teacher and fellow students, away from home and in a city environment, and had to obey the rules of Brahmacharya.[12]

---

[11] R. S. Majumdar, An Ancient History of India (London: MacMillan and Company, Ltd., 1953), p. 551.

[12] Brahmacharya related to the student stage of life. Life was divided into four stages, (1) Brahmacharya--the student stage, (2) Garhasthys--the house-hold stage, (3) Vanaprastha--the stage of retirement to the forest, and (4) Sannyassa--a homeless wanderer, attached to no name or place.

The teacher in ancient India was a professional teacher and scholar with a complete knowledge of many subjects. He never ceased to study throughout his life and kept his student abreast of the times. "He was anxious to pass his knowledge to his students so that what he had learned might not die with him."[13] Teachers were considered as honored citizens, wise men, and learned scholars, and served as State and Royal advisors. The Vedic system of education was remarkable and remained untouched for several centuries.

Buddhist Period

Buddhist education was based on the gospel of Gautam Buddha. Buddhism had its origin in Hindu religion as Buddha drifted away from the extremes of Hinduism. Consequently, education of this period was slightly different from that of the Vedic period, and changes took place in educational organization, curriculum, and teaching methods. Buddhist education was purely monastic; hence Mathas and Viharas (Monasteries) replaced teachers' homes (Gugukula), and Pali (the common spoken language) received literary recognition. During the Vedic period, Sanskrit had been the spoken language. In the beginning education was intended for those who were willing to enter the Buddhist order. Later, however,

---

[13] M. S. V. Chari, "India Education: Ancient and Modern," Educational Review, LXXIV, No. 10 (October, 1968), 232.

this position was altered and education was made available for all. Buddha allowed education to be imparted among all, irrespective of sex and caste. The Buddhist education was liberal in nature, which resulted in the spread of education throughout India. Buddhist monasteries were found throughout the country, whereas Jain monasteries existed in the South and West of India. Some of these monasteries eventually grew into universities similar to their Christian counterparts in Medieval Eupope.

Buddhist scripture shows that instruction was not provided only in Vedic and Buddhist literature and academic subjects, but in practical subjects as well. "There was a form of apprenticeship and law books lay down rules governing it."[14] A student had to choose his vocation and study subjects according to his needs and family traditions, and some students were prepared for the clergy, while others learned trades. It is interesting to note that traditionally the princes, the sons of nobles and chiefs, were given training in government as well as in subjects relating to the studies of arms and various forms of military sciences. In this period medical science became highly developed, and logic, philosophy, and acting were added to the curriculum.

The Buddhist period is famous for its universities, which grew through the fame of their philosophers and

---

[14]A. L. Basham, The Wonder That Was India (London: Sidwick and Jackson, 1954), p. 164.

teachers. They attracted students not only from India but also from Ceylon, China, Korea, Japan, and the East Indies. Nalanda, Vallabhi, Kanchi, Dihara, Ujjain, Jadavpur, and Banaras were the great centers of learning, and Nalanda was at the zenith of its glory when Huien-Tsang and I-Tsing, the two famous Chinese travellers, visited India. These men found the Indian educational system at its climax. "Nalanda, like Paris and Oxford (in later periods) specialized in religion, philosophy, medicine, and surgery."[15] "The students learned dissection of animals, manipulate lancets, treat wounds, and diagnose, classify, and treat various diseases."[16] Several medical conventions were held in the city of Taxila, which were attended by medical experts from Babylonia, Syria, Arabia, Phoenicia, and China.

The teaching methods of the Buddhist period were identical with those of the Vedic period, consisting primarily of oral instruction. It could be better understood in the words of Huien-Tsang: "The teachers explain the general meaning and teach them minutiae; they rouse them to activity and skillfully win them to progress; they instruct the inert and sharpen the dull."[17] Teachers engaged in

---

[15]T. N. Siqueira, Modern Indian Education (Calcutta: Oxford University Press, 1960), p. 13.

[16]Mohammad I. Khan, "Science and Mathematics in Ancient India," India News, IX, No. 5 (April 24, 1970), 3.

[17]Radha Kumud Mukerji, op. cit., p. 596.

discussion with their pupils and found the solutions to the problems, and there were indications of warm pupil-teacher relations. Teachers of high ability and talents discussed matters of religion and science among themselves, much like the discussion practices of teachers in the middle ages in Europe.

Buddhist education flourished and spread over India, China, Korea, Ceylon, and the East Indies, as missionaries were sent to these countries to spread religious ideologies and educational practices. Modern Indian education has inherited the apprenticeship and secularism of the Buddhist period. Unfortunately, the highly developed liberal, craft oriented and monastic system of education was adversely affected by the Muslim invasions.

Medieval or Mohammedan Period

From the 11th century A.D., Muslim invasions became a regular feature, and by the 12th century A.D., Muslims began to settle permanently in India. Since the invasions were political as well as religious, they introduced changes in the field of education. Buddhism was finally expelled and several centers of Hindu learning were closed. "Most of the Hindu scholars of renown left the North for the South and Rajasthan where they could still receive some sort of court favour because there the Hindu kings ruled in relative

peace and prosperity."[18] Despite the adversely affected education, Muslim rulers brought highly developed Arabic and Persian literatures, the religion of Islam, and a new kind of art and craft which was unknown to Indians. The progress of education was slow in the beginning for obvious reasons. "Till the end of 15th century A.D., the Mohammedans in India were little more than an armed garrison in a foreign country."[19] Education, however, was provided special attention and liberal grants were made under Mughal emperors at a later time. The credit for organizing education in a systematic manner goes to the Mughal Emperor Akbar.

It was under Muslim rule that the Makhtabs and Madarsahs were established. The Makhtabs were primary schools attached to mosques, and the Madarsahs were schools of higher learning. Secondary schools were not common during this period. Educational institutions were supported by both the ruling king and philanthropically-minded noblemen. The medium of instruction was Arabic, and was later broadened to include both Arabic and Persian. The aim of education was to spread Islam; thus, the students were to be Muslims. A mass conversion of Hindus into the Muslim faith took place to establish the superiority of the conquerers and to increase the number of those who followed the Muslim faith.

---

[18]Rajendra Pal Singh, "India," in Perspective on World Education, ed. by Carlton E. Beck (Milwaukee: W. M. C. Brown Company, 1970), p. 153.

[19]S. N. Mukerji, op. cit., p. 3.

The school curriculum at the primary level included language, simple arithmetic, geography, and elements of Koran (the sacred book of the Islamic religion). Several new crafts came into existence, learned as school subjects or family professions, and even today Muslims are found to be exceptionally good craftmen. The Madarsah offered philosophy, logic, mathematics, medicine, literature, and Koran. "The essence of all literature and sciences was summed up in Koran."[20] In the 18th century A.D. most universities' syllabi included declension and conjugation, grammar and syntax, logic, philosophy, mathematics, rhetoric, dialects, jurisprudence, and exegesis of the Koran traditions. The instructions were primarily oral with an emphasis on memorization very similar to the Vedic and Buddhist periods, and with close contact between teacher and students. "The apprentice generally lived with a master craftman."[21] Primary classes were held in some mosque where the Mollah (priest) enjoyed the status of a teacher. The university teachers and priests were highly learned scholars, experts in their subjects, and masters of sciences. Due to these talented teachers and scholars, Delhi and some other universities became great centers of learning, the envy of Baghdad,

---

[20]William I. Chamberlain, Education in India (New York: MacMillan and Company, Ltd., 1899), p. 16.

[21]Husain Yousuf, Glimpses of Medieval Indian Culture (New York: Asia Publishing House, 1957), p. 71.

the rival of Cairo, the equal of Constantinople. It is worthy to note that most emperors and kings of this period were highly intellectual, and some of them wrote autobiographies and poetry, or encouraged others to write.

Mohammedan education made remarkable progress because most Hindu and Muslim kings provided facilities in their respective states, and considered education a religious obligation. By the 17th century Hindu and Muslim scholars had begun to study each others' languages, and the Urdu language was a consequence of this scholarly exchange. Hindu Pathshala (Primary schools) and tols (institutions of higher learning) also developed with the Makhtabs and Madarsahs, but the progress of this system was hindered by the death of the Mughal Emperor Augangzeb in 1707.

The valuable gifts of the Mohammedan period were unique and the present education of India is indebted to it. During this period crafts, art, painting, music, architecture, and three new languages (Arabic, Persina, and Urdu) were added to the school curriculum.

British Period

The history of British education can be traced from 1772 to 1947. British involvement in India officially began with the establishment of the East India Company and its participation in internal politics. Much of the present educational system in India has been the product of British rule.

Secondary schools, grade organization, the English language, the examination system, formal teacher education, and school inspection have been Britain's most distinctive contributions to Indian education. Keeping secondary education in mind, the British period can be divided into four sections: (1) 1772-1854, (2) 1854-1902, (3) 1902-21, and (4) 1921-1947.

1772-1854

Education was neglected in India during this period because the British authorities were not willing to increase their economic investment for the educational development of a newly acquired colony. As a matter fact, the directors of Courts in 1792 declared that "they had just lost America from the folly of having allowed the establishment of schools and colleges, and it would not do for them to repeat the same act of folly in regard to India."[22] Like most colonizers, they needed a common language to communicate with their subjects. There was a great demand for clerks and subordinate officers to serve in the growing establishment. To deepen the roots of British imperialism they needed to create a class of their admirers who could appreciate their supremacy. Macaulay in 1835 stated, "We must at present do our best to form a class who may be interpreters between us and the millions whom we govern, a class of persons, Indian in blood

---

[22]A. L. Mudaliar, Education in India (New York: Asia Publishing House, 1960), p. 22.

and colour, but English in taste, in opinions, in morals, and in intellect."[23]

Some provisions were made for the education of a few Indians based on the filtration theory,[24] but no effort was made by the British to achieve mass education. To accomplish their purposes, the British developed a system of Indian education based on the model of education found in Great Britain without synthesizing the Indian heritage and the British inheritance. The orientation of Indian education under British rule was reflected in a Resolution dated March 7, 1835, which stated, "the great objective of British government ought to be the promotion of European literature and sciences. . . ."[25] While emphasizing this point Bentinck directed that all available funds "be henceforth employed in imparting to the Native population knowledge of English literature and science through the medium of English language."[26] Secondary education became the sole medium to attain the objectives of Macaulay's scheme. The first college was opened in 1820 at Calcutta and the first high school in 1826 at Madras.

---

[23]Edward Michael, British India, 1772-1947 (New York: Taplinger Publishing Company, 1967), p. 21.

[24]Education for the elite.

[25]V. A. Smith, The Oxford History of India, 3rd ed. ed. by Percival Spear (Oxford: Clarendon Press, 1958), p. 650.

[26]Ibid.

The high school curriculum included European literature and English history; composition in fluent and idiomatic English; important essays on history, politics, social and economic life; and mathematics and geography. The examination became a dominating force in the high school curriculum. Students were expected to study those subjects which were beyond their imagination, and absolutely foreign in nature to them. Teaching and learning were based on rote memory rather than on comprehension. The major credit in imparting education in India during this period goes to missionaries who actively participated in educational pursuits. Education was neglected by the Company and by Indians, as they did not express their keen interest in Western education. Nevertheless, the attitudes of Indians changed as they began to realize the importance of English education near the end of this period.

1854-1902

In 1854 Wood's Despatch was formulated by Sir Charles Wood, which was one of the greatest charters of Indian education. The Despatch recommended the improvement and expansion of education in every district. It called for, "schools whose object should be not to train highly a few youths but to provide more opportunities than now exist for the acquisition of such an improved education as will make those who possess it more useful members of society in every condition

of life."[27] The Despatch of 1854 recommended special attention of the government of India to the improvement and expansion of education, both English and vernacular (native language), and prescribed as the means of the attainment of these objectives: (1) the constitution of a separate department of administration for education, (2) the institution of universities at the precidency towns, (3) the establishment of institutions for training teachers for all classes of schools, (4) the maintenance of the existing government colleges and high schools and the increase of their numbers when necessary, (5) the establishment of new middle schools, (6) increased attention of vernacular schools, and (7) the introduction of a system of grant-in-aid.[28]

After the report of the Despatch was published, education became the state responsibility and a department of education was established in each state. Grants were made available and private enterprise was encouraged. Most of the new private schools were opened by Indians themselves, and there was a tremendous growth in the number of secondary schools. Education made remarkable progress, as there was a keen desire for education among the Indians. Education was made virtually the passport to higher appointments available

---

[27] Syed Nurullah and J. P. Naik, History of Education in India During the British Period (London: MacMillan and Company, Ltd., 1943), p. 291.

[28] William Chamberlain, op. cit., p. 45.

to Indians, so that its popularity and rapid progress were equally assured. "Middle class Hindu fathers began to send their sons to European schools, despite the dangers of ritual impurity and Western ideas began to affect the well-to-do educated Indians."[29] Even public service positions were filled by open competitive examinations; therefore, the need for English education exceeded the demand for either Sanskrit or Arabic.

English was the medium of instruction at both the college and high school levels, and was used in the board examinations. "The old stereotyped course in English, second language, elementary mathematics, history or geography continued. In some cases elementary science was added."[30] Practically no provision was made for vocational courses and co-curricular activities. Most of the school time was devoted to mastering the English language. Teacher education at the secondary level was in its infancy. In this entire period there were only two training colleges established, at Madras (1856) and Lahore (1880). Two models for teacher training were suggested: first, the French normal model, and second, the German practice. Five universities were established, at Calcutta, Bombay, Madras, Lahore, and Allahabad based on the model of the University of London.

---

[29] A. L. Basham, op. cit., p. 481.

[30] S. N. Mukerji, op. cit., p. 154.

1902-1921

This period brought a rapid quantitative development in education. The rush to secondary schools was greater than that to primary schools or to institutions of higher learning. As a result, the existing secondary schools could not cope with the increased enrollments. State governments revised their policies for grant-in-aid, thereby encouraging more private schools which obtained recognition by receiving aids, and the government schools improved their standards by employing more trained teachers. Very little was known about diversification and vocationalization. The secondary school curriculum included English, geography, history, and physical sciences. The direct method was employed in teaching English, and the medium of instruction remained controversial.

In 1912 there were 15 training colleges for secondary school teachers, "United Provinces has 66 per cent trained teachers; Bombay 24.1 per cent; Punjab 70 per cent; and Madras 70 per cent."[31] With the rapid increase in the number of pupils in secondary schools, some problems of educational quality developed.

1921-1947

Indians helped the British in fighting and winning World War I. Several political and educational promises

---

[31]Syed Nurullah and J. P. Naik, op. cit., p. 330.

were made before the war but none of them were fulfilled. By the close of World War I the people of India had become fully aware of their national rights and a national consciousness was developing. It was realized that freedom could not be attained in the absence of literate and educated masses. In the opinion of most of the Indian educational historians, the government began to ignore its educational concern and responsibility during this period. In spite of this negligence, some important committees were appointed to examine secondary education which resulted in the Hartog Report (1929), the government of India Act of 1935, and the Sargent Report (1944). The Hartog Committee of 1929 stated,

> We are of opinion that the divorce of the Government of India from education has been unfortunate, and holding as we do that education is essentially a national service, we are of opinion that steps should be taken to consider anew the relation of the central government with this subject.[32]

In spite of such an encouraging report, a very small amount was spent on education and federal-state relations remained superficial.

The government of India Act of 1935 was implemented in 1937, which gave complete autonomy to the states, and education ministers enjoyed greater power than ever before. The curriculum was widened, and technical, vocational, and

---

[32]"Education in India in 20th Century," Monthly Commentary on Indian Economic Conditions, IX, No. 5 (December, 1967), 152.

scientific subjects were added. During this era, the number of schools increased and the student population nearly doubled. Most of the educational expansion was made possible by private donations on a communal and sectarian basis. The numbers of teacher training institutions also increased. The heavy rush and demand for secondary and higher education resulted in lowered standards and unemployment. The high school and college graduates were only prepared for clerical jobs, since they considered manual work to be beneath their dignity. This created a ppol of unemployed educated citizens which is still evident in independent India.

Education in India under the British was far from satisfactory. It was "first ignored, then violently and successfully opposed, then conducted on a system now universally admitted to be erroneous, and finally placed on its present footing."[33] The British were rather shortsighted and haphazard in their educational efforts. The system was conceived and implemented by an alien government for a subject people. It had its necessary limitations and motives of economic and political gains rather than the development of an informed democracy, or meeting national needs. Education was based on a single track system to prepare students for clerical jobs. The lack of integration between education and social conditions hindered the development of education.

---

[33]A. P. Howell, Education in British India (Calcutta: Government Printing Press, 1872), p. 1.

The British achievements in nearly 175 years can be summarized by the following figures: the literacy rate was 12.2 per cent; the number of secondary schools, 5,000 and their enrollment (in age group 14-17) 900,000; training colleges numbered 51; there were 50,000 teachers; there were 18 universities; and only 38 engineering and technical colleges.

These statistics reflect an inadequate educational progress achieved by the British, but India through them inherited the western educational system. Secondary education, grade organization on a systematic basis, the examination system, school administration, school inspection, English and other European languages, modern science and technology, and western culture became known to India through the British. With the introduction of the western system of education, the foundation of modern India was established. Even the press, the cinema, mass media, and the railways came to India through Englishmen. Several books were written on the history, art, and culture of India, and consequently Indians developed a pride in being Indian because the British were great admirers of Indian architecture, art, handicrafts, and painting. For the first time, Indians received, in this form of alien education, a lesson in patriotism and unity.

Independent Period

In the post-independence period, a major concern of both the government of India and of the states has been to

give more attention to education as a vital factor in India's economic growth, industrial development, national progress, and national security. National leaders have realized that the nation's destiny must be shaped through education. The population of India is 547,000,000 and half of it is under eighteen years of age. India is a land of youth, and Indians believe that the nation's major objectives can be achieved through proper educational progress.

India won her independence on August 15, 1947, at a time when she had a literacy rate of 12.2 per cent, together with many other political, economic, and social problems. The partition of India created an acute problem with refugees who had to be given food and shelter before they could be given books. The uniting of 562 Indian princely states and nine British provinces, and the framing of a constitution, were the difficult tasks national leaders had to overcome in order to create a stable democratic government. Planning and transformation of the educational system to relate it to national needs and aspirations entailed great time and effort. Because of these circumstances, no concentrated attention was focused on education until 1951. Spirit among the people, however, was very high due to the freedom, patriotism, and self-awareness which followed the newly gained independence.

Under the new constitution, education was established as a state subject, and the Central government does not have

any direct responsibility to support it. In Article 45 of the Indian Constitution the directive principle of state policy reads, "The State shall endeavour to provide within ten years from the commencement of this constitution for free and compulsory education for all children until they complete the age of fourteen years."[34] This objective has not yet been attained due to inadequate planning, resources, and motivation.

The Central government has a significant responsibility for the economic and educational development of scheduled castes and scheduled tribes,[35] just as the federal government of the United States has a special responsibility for Indians (American) and Negroes, the Canadian government for Indians and Eskimos, and the Australian for Maories. Unlike the United States, the Central government has a unique responsibility for educational research and experimentation; for textbooks and instructional materials, for professional and vocational training, for advising state governments on matters of school education, promotion and expansion; for providing leadership for the pursuit of quality education;

---

[34] Constitution of India, Part IV, Article 45, Para 1 (New Delhi: Manager Publication, Government of India, 1949), p. 20.

[35] In older days the higher castes regarded contact with the lower castes as polluting and the latter were also subjected to some disabilities. These lower castes were considered scheduled castes and the isolated sections of these people living in hilly areas became scheduled tribes.

and for coordinating and determining standards for institutions of higher learning. The educational role of the federal government of the United States is not so prominent as the educational role of the Central government in India. In independent India, the central and state governments have maintained good and effective relations in the planning, programming, and facilitating of education. Despite the division of responsibilities, educational planning is proposed by the government of India, its subordinate bodies, and various appointed commissions.

In India, education is free through the primary school stages in all of the 18 states and the Union Territories. Secondary education is free in the Union Territories and in Andhra Pradesh, Jammu and Kashmir, Kerala, Mysore, Nagaland, Punjab, and Tamil Nadu. Also, it is free for girls in Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh.[36] In Rajasthan free education is extended to the university stage for girls, as well as to the scheduled castes and scheduled tribes.

"Contemporary India is seeking to achieve in decades what the western world has taken centuries to accomplish."[37] To match her determination and to effect educational change, India has launched her Five Year Plans since 1951. "The

---

[36]"India, 1969," op. cit., p. 64.

[37]Humayun Kabir, op. cit., p. 112.

emphasis in the first two plans was mostly on quantitative expansion of educational facilities, but the third plan scheme provided for an improvement in the quality of education."[38] Similarly, the fourth plan was designed to bring about improvement in both quality and quantity in education. Ellsworth S. Obourn views these plans differently: "The first plan laid great stress on agriculture, and the second on industry and the third, which began in 1961, recognized development of education."[39]

During the First Five Year Plan (1951-56) Rs. 169 crores[40] were provided for education, and educational efforts were focused on the primary level. Also, a secondary education commission was appointed under the chairmanship of Dr. Lakshman Swami Mudaliar in 1952. This commission traveled all over India, studied the needs and problems of secondary education, and published its report in 1953. As a result of this report, national attention was shifted to secondary education, and changes were effected in its structure, curriculum, and teacher education. A higher secondary system replaced the existing high school and added one additional year.

---

[38] UNICEF Aided Project on Science Teaching at the School Stage (Faridabad: Ministry of Education, Government of India Press, 1968), p. 6.

[39] Ellsworth S. Obourn, "India Trains Teachers for a New Age," American Education, I, No. 3 (March, 1965), 17.

[40] One dollar is equal to Rs. 7.50. One crore is equal to ten million.

Provisions for diversification were made both "horizontally and vertically" in the secondary curriculum, and multipurpose, technical, and vocational schools were established throughout the country. The higher secondary curriculum included integrated subjects such as general science, social studies, and crafts as compulsory subjects.

During the Second Five Year Plan (1956-61) Rs. 2,750 crores were provided for education, and existing projects were continued and further expansion was made possible. In the Second Five Year Plan secondary education was considerably improved, and efforts were also made to further improve primary and higher education. During this period the recognition of secondary education continued; an All India Council of Secondary Education was established; the Directorate of Extension Programs of Secondary Education was developed; and provision was made for the large scale development of technical education.[41]

The Third Five Year Plan (1961-66) provided Rs. 4,180 crores for general education and Rs. 1,420 crores for technical education. The programs undertaken in the first two plans were continued, with a special emphasis on primary education. At the end of this period, an education commission was appointed under the chairmanship of Dr. D. S. Kothari in 1964, known as the Kothari Commission. "It secured the

---

[41] "Education in India in 20th Century," op. cit., p. 153.

services of eminent educationists and scientists from abroad through UNESCO, The British Council for Education, and U.S. A I D and submitted its report to the Government on 22 June, 1966."[42] The Commission dealt with education in general, and placed special emphasis on secondary education, and recommended the establishment of a uniform national pattern of education. According to the report, secondary education was to be terminal and consist of 12 years instead of 11. This newly recommended pattern has been accepted by some states but Rajasthan will continue its existing program of 11 years of the higher secondary plan until 1975. By 1985, all states will follow a uniform national pattern which permits little flexibility.

During the period from 1966 to 1969 India suffered from rather poor general economic conditions. This was a direct result of the 1965 war with Pakistan and two subsequent droughts during 1965-66 and 1966-67. Because of these circumstances higher priority has been given to necessities such as agriculture, family planning, and industry than to education. The state governments also curtailed their expenditures on education during these years, and as a result of this cut in funds, programs designed for improvement of Indian education had to be postponed. The proposed Fourth Five Year Plan (1966-71) anticipated an enrollment of 37.6

---

[42]"India, 1969," op. cit., p. 60.

lakhs[43] or an average of 7.5 lakhs per year at the higher secondary level (IX-XI) but the actual additional enrollment has been only 4.6 lakhs per year. Due to economic problems the Fourth Five Year plan was postponed until 1969.

Under the three described plans, India made tremendous progress in the field of education. "There is no parallel to this expansion in the earlier history of this country and even in the contemporary world, this record would be equalled by only a few countries if any."[44] (Table 1.) This expansion has had a tremendous impact at both secondary and university levels, rather than in primary or technical education. This secondary and university expansion was due to better educational facilities; need for elementary school teachers, social prestige attached to a university degree, and shrinking jobs for those educated only on a primary level. Upward mobility has made a secondary school diploma a minimum requirement for many positions. "The enrollment rate of 9.9 per cent at the lower secondary stage (VII and VIII grades), 11.8 per cent at the higher secondary stage (IX-XI grades), and 9.6 per cent at the undergraduate stage,"[45] is consistently rising every year.

---

[43]Lakh is equal to 100,000.

[44]J. P. Naik, "A Review of the Achievements of the Five Year Plans, (1951-65)," Educational Quarterly, XIX, No. 4 (January, 1968), 34.

[45]Ibid.

TABLE 1

ACHIEVEMENTS AND TARGETS FIVE YEAR PLANS INDIA
(Figures in Lakhs: 1 Lakh = 100,000)

	Particulars	1950-51	1955-56	1960-61	1965-66	1968-69	Fourth Plan 1969-74 Targets
1	Number of pupils in classes I to V	9.5	25.7	349.9	514.5	568.0	748.0
	Percentage thereof to total population 6-11 age group	43.6	50.0	62.8	78.5	79.2	92.3
2	Number of pupils in classes VI to VIII	31.2	42.9	67.1	105.4	130.5	201.1
	Percentage thereof to total population 11-14 age group	12.9	15.9	22.5	30.9	34.7	45.9
3	Number of pupils in classes IX to XI	12.6	19.8	30.2	55.1	64.2	97.2
	Percentage thereof to total population 14-17 age group	5.6	7.9	11.1	18.0	19.0	24.6
4	Number of pupils at the university stage--arts, science and commerce	3.1	5.5	7.4	12.3	16.9	26.3
	Percentage thereof to total population 17-23 age group	0.8	1.2	1.5	2.3	2.9	3.8

Source: India, 1969 (New Delhi: Ministry of Information and Broadcasting, Government of India, Publication Division, 1969), p. 62.

Although primary education is free throughout India, it has not met the constitutional requirements. The dropout rate in primary education is increasing, with 40 per cent of the students dropping out at grade II, 51 per cent at grade III, 58 per cent at grade IV, and 58 per cent at grade V. In addition, technical and vocational education was found to be unable to meet the demands for trained manpower even after the special provisions of grants-in-aid, since laboring jobs carry little personal dignity for Indians.

During the Fourth Five Year Plan (1969-74) Rs. 822.66 crorers have been allocated, plus an average annual expenditure of Rs. 500 crorers in addition to Plan funds. Under the present five year plan, the recommendations of the Education Commission of 1966 are to be implemented. Current proposals include qualitative and quantitative improvements, progress in technical and vocational education, the organization and structure of education on a national pattern, and the improvement and upgrading of content and standards. Three major deficiencies in the educational system may be alleviated by: (1) linking it more effectively with the increasing demand of social and economic development; (2) improving the quality of instruction at all stages; and (3) extending facilities for education in response to the social urges and economic needs of the country.[46] It is expected that by the

---

[46] Committee, 'E' on Draft Fourth Five Year Plan Synopsis of Proceedings (New Delhi: Lok Sabha Secretariate, 1967), p. 1.

end of the Fourth Five Year Plan India will have a well articulated system of education suited to the needs and aspirations of a modern scientific and technological society.

In her 23 years of independence, India has made bold and challenging experiments in educational matters, but expansion and development have been irregular among the states. Some states have made rapid progress and others have not. Rajasthan is a prime example of this progress. At the time of its formation in 1950 it was educationally the most backward state in the union with a literacy percentage of 8.9, the lowest in the nation. Rajasthan remained behind the other states in educational matters for many reasons. The State, formerly called Rajputana, was formed by the integration of 21 princely states and Ajmer Merwara, a British Province under a chief commissioner (Figure 1). These states were in various stages of development, in respect to their economic, social, cultural, and political and consequently educational aspects, each being guided by traditions of its own, which varied in such a large measure that what was regarded with approbation in one could as well be considered with suspicion and even distrust in another.[47] The state has been adversely affected by nature as the Thar desert covers one-half of its area and the scarcity of water has been and acute problem in some of the districts; however, Rajasthan

---

[47] S. N. Mukerji, Education of Teachers in India, Vol. II (New Delhi: S. Chand and Company, 1968), p. 282.


INDIA
WITH
ADMINSTRATIVE DIVISIONS
STUDY AREA
JAMMU
& KASHMIR
HIMACHAL
PRADESH
PUNJAB
HARYANA
RAJASTHAN
NEPAL
UTTAR
PRADESH
BHUTAN
NEFA
ASSAM
NAGA
LAND
MANI-
PUR
TRIPURA
BIHAR
W. BENGAL
GUJARAT
MADHYA
PRADESH
MAHARASHTRA
ORISSA
BAY OF BENGAL
ARABIAN SEA
ANDHRA
PRADESH
GOA
MYSORE
KERALA
TAMILNADU

FIG. 1

is very rich in minerals, such as mica, gypsum, silver, uranium, copper, and zinc. Part of the population is made up of tribal people who have had no tradition of schooling.

The teacher pay scales in Rajasthan are among the highest in the country, and teachers provide a stable element to the state's educational program. Because of the high salary schedules, teachers are migrating to Rajasthan from other states, the largest number coming from Uttar Pradesh. Since Rajasthan has been known as a backward state, it is making tremendous effort to attain the All-India average in education, and this effort is evidenced by the expenditure for education amounting to 22.6 per cent of the total state budget (Figure 2). The rate of educational growth within Rajasthan during the last 20 years is one of the highest in the country. In 1951, there were 4,336 primary schools, 732 middle schools, and 175 high schools; in 1969, state figures showed 18,900 primary schools, 2,002 middle schools, and 1,026 high/higher secondary schools. The numbers of school enrollment have greatly increased in those same years, as shown in Table 2.

The school curriculum has been revised and the number of years encompassed by primary, middle, and high/higher secondary schools has been increased. Rajasthan has done some pioneering work in reforming the examination system, teacher education, introduction of work experience, and part-time education. Today, Rajasthan has progressed to the point

STATE EDUCATIONAL BUDGET

1965 - 66

PERCENTAGE OF EDUCATIONAL BUDGET TO THE TOTAL BUDGET

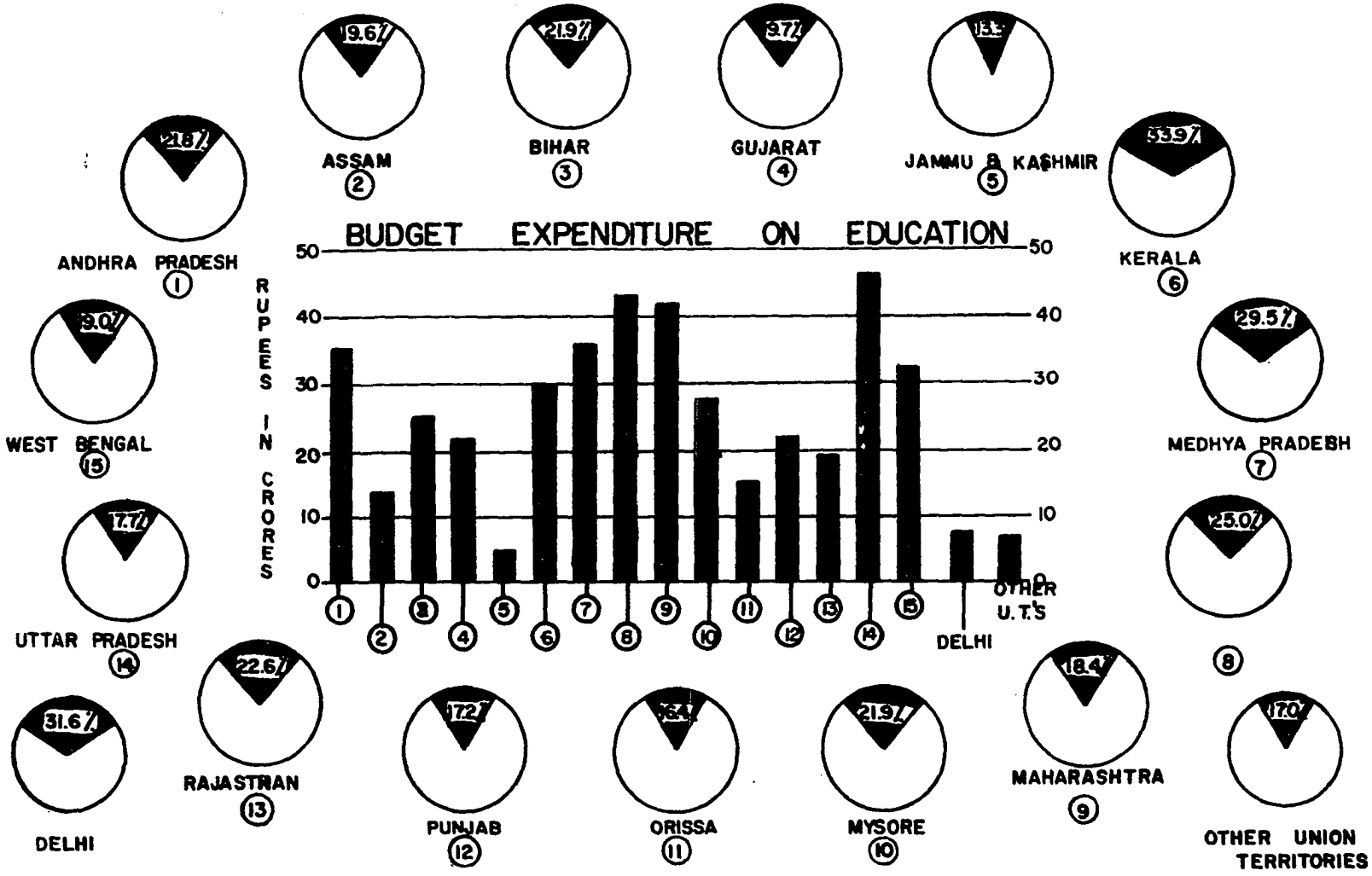


FIG. 2

TABLE 2

NUMBER OF STUDENTS AT SCHOOL STAGE--RAJASTHAN
(Figures in Lakhs: 1 Lakh = 100,000

	I - V			VI - VIII			IX - XI		
Year	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1950-51	2.75	0.55	3.30	0.52	0.09	0.61	0.16	0.02	0.18
1955-56	4.39	0.93	5.37	0.96	0.11	1.17	0.37	0.03	0.40
1960-61	8.99	2.15	11.14	1.79	2.28	2.07	0.78	0.08	0.86
1961-62	10.12	2.42	12.54	2.06	0.34	2.40	0.95	0.10	1.05
1962-63	11.25	2.75	14.00	2.25	0.40	2.65	1.04	0.12	1.16
1963-64	11.50	2.95	14.45	2.41	0.41	2.82	1.06	0.13	1.19
1964-65	12.03	3.36	15.39	2.66	0.44	3.10	1.16	0.15	1.31
1965-66	12.54	3.64	16.18	2.81	0.49	3.30	1.30	0.17	1.47
1966-67	12.97	3.74	16.71	3.13	0.57	3.70	1.45	0.22	1.70
1967-68	13.94	4.84	18.78	3.33	0.66	3.99	1.60	0.24	1.84
1973-74	17.93	7.00	24.93	5.16	1.40	6.56	2.10	0.50	2.60

Source: Educational Statistics in Rajasthan (Bikaner: Directorate of Primary and Secondary Education, Government Press, Rajasthan, 1969), p. 8.

that its standards and quality of education are better than those found in several other states.

India, with the British withdrawal in 1947, developed close contacts with other nations and consequently was influenced by their economic, industrial, and educational endeavours. The United States and the Soviet Union form two separate ideological blocs, and each of those countries is influential throughout the world. Being a newly independent country, India adopted a neutral policy toward these powers in order to attain peace. In her search for rapid educational organization, India acquired ideologies and practices from both the United States and the Soviet Union to meet her needs as an independent nation. It is difficult to measure the influence of either country but the political views and educational practices of the United States are closer to the Indian system than are those of the U.S.S.R. American influences on learning in India have been greater than those of the U.S.S.R. because of (1) Indians' familiarity with the English language, and (2) the democratic way of life so important to both India and the United States. According to Dr. R. P. Singh, "Besides all the top education commissions India has had in the past 22 years (which had at least one American consultant or member each) Americans are directly responsible for furnishing brainwork and financial assistance

in large quantities."[48] The American influence on Indian education has been definite and specific. The adoption of foreign practices, however, has been within the framework of Indian educational policy and with Indian consent.

In the described period of Indian educational transition, the American influences can be observed at all levels and in all branches of primary, secondary, university, and technical education. American classroom techniques and teacher guides have been used in Indian schools. Indian secondary education has been changed by the influence of American experiences in the fields of organization and structure, curriculum, teaching methods, examination and evaluation, and teacher education. An introduction of the semester system at the university level, objective-based teaching, examination, and technical education have been noticeable American features. Dr. D. S. Kothari, the Chairman of the Education Commission, says, that "two-thirds of modern scientific literature comes from U.S.A. and one-third from Russia."[49] The United States has influenced virtually every field of Indian education, and educators and administrators, both at the central government and state levels agree that the American educational ideologies and practices have

---

[48]R. P. Singh, "American Influences on Indian Education," National Institute of Education Journal, IV, No. 3 (January, 1970), 17.

[49]Raghuvir Sahay Nigam, "Indo-U.S. Educational Foundation," Educational Review, LXXIV, No. 1 (January, 1968), 8.

influenced Indian secondary schools. "Improvements are being made to adopt the foreign pattern of education according to our local needs and probable developments. Mostly American thought is getting the supreme position in academic spheres and especially in secondary education."[50] Anil Bordia, formerly the Director of Primary and Secondary Education, Rajasthan, says,

> It is true to say that the impact of U.S.A. has been prominent especially in class room situation of Rajasthan in the areas of evaluation, science teaching, inservice education, and curricula. The impact came through National Council of Educational Research and Training and other national organizations which work closely with the United States National Science Foundation and the United States Educational Foundation in India. The National Council of Educational Research and Training experts have had their excellent training in U.S.A.[51]

The earliest link between the United States and India was provided by the common chain of British colonialism and the "sailors and soldiers who had lived both in American colonies and in India."[52] In the independent period, Americans have been participating in India since 1949 through the educational and cultural exchange programs and through trade

---

[50]Personal interview with Mr. R. S. Sharma, Headmaster, Regional Demonstration Multipurpose Higher Secondary School, Ajmer, July 17, 1970.

[51]Personal interview with Mr. Anil Bordia, formerly the Director of Primary and Secondary Education, Rajasthan and currently working as Collector of Ajmer District, Rajasthan, Ajmer, July 31, 1970.

[52]Norman W. Brown, The United States and India and Pakistan (Cambridge: Harvard University Press, 1963), p. 361.

relations. "Relations between India and U.S.A. continued to be close and cordial in many fields of common endeavour especially in agriculture, education, science, and technology."[53] The United States government and its agencies, including private foundations, are actively engaged in providing educational assistance to India. As mentioned by R. Grant Smith, "U.S. Government efforts in this field fall into two categories: (1) help given under our foreign aid program, and (2) scholarships, lecturers, and similar activities under our educational and cultural exchange program."[54] Since 1951, about 3,000 American specialists have served India and 199 are presently sharing their experiences with their Indian colleagues.

The United States Agency for International Development (U.S.A.I.D.), and the National Science Foundation (N.S.F.) have been offering educational services in India as well as in the United States. For advance training, "Indian officials, teachers, engineers, health specialists, and other personnel are being sent to the United States. The total number of these participants now stands at 5,778. This includes 237 who are still undergoing training in the United

---

[53] "India, 1969," op. cit., p. 537.

[54] R. Grant Smith, Personal Letter, India Desk, Officer Department of State (Washington, D.C.: December 16, 1970).

States."[55] The United States Educational Foundation in India was established in February, 1950, by the Government of India and the U.S.A. to administer the Fulbright Educational Exchange program. "During this period students, research scholars, college professors, high school teachers, school and college principals, and secondary education administrators have visited the two countries for further studies, research, or teaching."[56] This organization has set up projects which are scattered throughout India. Several projects either are being completed or taken over by Indian educational councils. American organized projects have been financed through the money accumulated in India as a result of the Indian government's payments to the U.S. for agricultural commodities under Public Law 480. These rupees are deposited in Indian banks and continue to draw interest. The funds are being utilized by American agencies and personnel with appropriations from the U.S. Treasury or by the U.S. Congress. Very little use has been made of these funds.

Some non-government American organizations have been actively engaged in providing educational experiences for Indian schools and colleges. The Ford Foundation has been the single most outstanding agency participating in India

---

[55] Fact Sheet: United States Economic Assistance to India June, 1951-July, 1970 (New Delhi: The United States Information Service, 1970), p. 3.

[56] "The Fulbright Experience," The Fulbright Newsletter (Spring, 1970), 6.

since 1951. It has assisted in strengthening national training institutions so they might provide skilled manpower for India to support her national growth. All the Foundation's activities are very closely related to India's national Five Year Plans in the fields of agriculture, family planning, education, and economic growth. Its main objective has been as stated below:

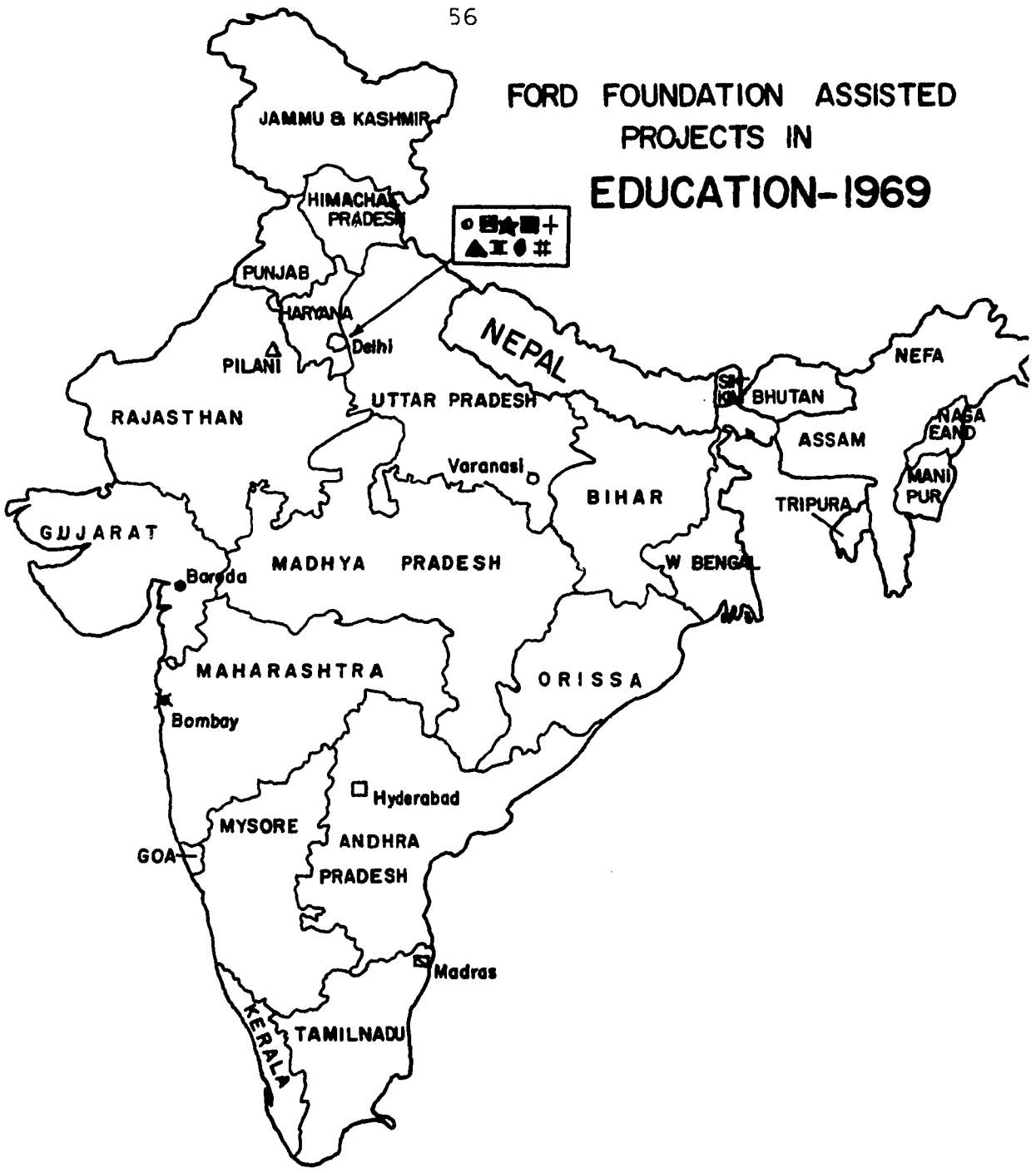
> . . . to help bring about changes and reforms in general secondary and higher education in order to avoid mass unemployment through assistance to action-oriented planning and research projects on the vocationalization of education in India with particular emphasis on the redirection of secondary education.[57]

India has benefited by the Foundation's assistance in developing a viable economy and democracy. While the Foundation has assisted several countries in developing their educational and economic systems, India has received the largest grants outside the United States. From 1969 through August 1971 the Foundation has provided $261,000.00 for secondary education and its research, as well as assisting with other projects and programs in secondary education (Figure 3).

Historically Indian education is an inheritance of several educational ideologies, practices and systems mainly articulated through Dravidians, Aryans, Arabs, Persians, Mughals, British, and American influences. The government

---

[57] Ford Foundation-Annual Status Sheet; Assistance to India Development Programs and Projects (New Delhi: Ford Foundation, 1969), p. 128.



PROJECTS AND LOCATIONS

□	CENTRAL INSTITUTE OF ENGLISH	HYDERABAD	■	SUPPORT OF LAW FACULTY	DELHI
●	POSTGRADUATE TRAINING & RESEARCH IN HOME SCIENCE	BARODA UNIV.	+	STRENGTHENING TEACHING & RESEARCH	DELHI
▮	RESEARCH & TRAINING IN CHINESE STUDIES	DELHI UNIV.	⊙	NATIONAL BOOK TRUST	DELHI
△	BIRLA INST. OF TECHNOLOGY & SCIENCES	PALANI	▲	ISLAM & MODERN AGE SOCIETY	DELHI
○	IMPROVEMENT OF LEGAL EDUCATION	VARANASI	●	HOMI BHABHA FELLOWSHIP COUNCIL	BOMBAY
★	DEVELOPMENT OF DEPT. OF LINGUISTICS	DELHI UNIV.	#	SUPPORT FOR RESEARCH & PLANNING ON SECONDARY EDUCATION	DELHI
▭	SOUTH INDIA TEACHERS UNION COUNCIL OF EDUCATIONAL RESEARCH	MADRAS	▭	SUPPORT OF LIBRARY DEVELOPMENT	DELHI

FIG. 3

of India is drawing upon the experiences and thinking of educators from other parts of the world, especially the U.S.A., in seeking the most appropriate type of education for Indian secondary schools.

CHAPTER III

THE ORGANIZATION AND CURRICULUM OF SECONDARY SCHOOLS IN INDIA AND IN THE STATE OF RAJASTHAN

The reconstruction of secondary education evolves from its administrative machinery, structure, grade arrangement, duration, and curriculum organization. In the past 23 years several changes have taken place in school organization in India as the duration of school attendance has been lengthened by two years and supervision has become a part of school inspection. Formal training for school administrators, and the development of educational consultants, including subject specialists, have been some of the dynamic features of India's higher secondary schools. Curriculum revision has been accepted as a continuous and on-going process and new subjects have been added to existing programs. More specifically, the first ten years of schooling are devoted to general education, with subject specialization being postponed to a later period in the education process, and secondary education has become terminal for the majority of students. In the reorganization of Indian secondary education, including curriculum development, practices from foreign nations have been adapted and adopted, with a noticeable

effect being exerted by educational experiences in the United States of America. For example, the strengthening of supervision, the integration of subjects, and school guidance programs have been major impacts of American education upon Indian secondary schools.

Organization

Organization has a direct impact on the quality and standards of education. A systematic and imaginative system of supervision and administration can initiate and accelerate educational reform.[1] Efficient administrative organization, management, and grade arrangement are the fundamental ingredients for the successful operation of schools.

Administrative Organization

Education in the Indian states is under the control of state education ministers. The education minister directs its execution and policy, and is responsible to the state legislature. In Rajasthan, the education minister discharges his responsibilities through the state department of education headed by the director of primary and secondary education with headquarters at Bikaner. The director is a highly qualified educator and also holds an I.A.S. (Indian Administrative Service) rank. He is assisted at the head office by

---

[1] Report of the Educational Commission (1964-66); Education and National Development (New Delhi: Ministry of Education, Government of India, 1966), p. 249.

three deputy directors, one each for elementary; secondary; and planning, statistics, and social education; as well as four assistant directors. In technical matters the director is assisted by the following departments: (1) the Bureau of Educational and Vocational Guidance, (2) the State Institute of Education, (3) the State Institute of Science Education, (4) the Institute of Language Studies, and (5) the State Evaluation Unit (the Board of Secondary Education). The prime responsibility of the director is to plan, administer, execute, and finance state educational institutions and programs.

For administrative convenience Rajasthan is divided into three divisions or ranges, each under a deputy director of education with headquarters at Jaipur, Jodhpur, and Udaipur. Furthermore, there are 26 administrative districts (comparable to counties in the United States) in Rajasthan (Figure 4) in which there are 27 educational districts, Jaipur being divided into two for the purpose of educational administration. The number of district inspectors of schools has now been reduced from 27 to 21 as a measure of economy, each district inspector of schools being assisted by one or more deputy and sub-deputy inspectors. For the inspection and administration of girls' schools there are three deputy directors of education (women) in each of the three ranges, e.g., Jaipur, Jodhpur, and Udaipur; three inspectresses of girls' schools, one each at Ajmer, Kota, and Bikaner; and

four deputy inspectresses of girls' schools, one each at Jaipur, Jodhpur, Udaipur, and Bharatpur (Table 3). All these administrators at the division and district level have only administrative and inspecting duties. The headmasters/ headmistresses are the administrators of their respective schools. The higher secondary school headmaster in Rajasthan plays a similar role to that of a principal of any high school in the United States.

Schools are inspected by the inspector of schools and divisional deputy directors once or twice a year, but in rural areas schools may not be inspected even once a year. School inspection is primarily a stimulus for teachers, although it has very little effect on the improvement of instruction. The inspector may visit a school either unannounced or with prior notice. Normally, he visits a few classes at random and writes a report on how the lessons were taught. During his visit most of his time is spent with the headmaster. In case the inspection date is scheduled, there is a great deal of rush and tension among teachers and office personnel. Teachers will arrange the class notes, the daily diary, and students' work in order to impress the inspectors. Following the inspection some inspectors try to gather the staff for a brief speech to discuss departmental policy. The inspectors appear to have little interest in the improvement of teaching and the learning situation. Many inspectors apparently visit schools to collect traveling and daily

ADMINSTRATIVE DISTRICTS OF

RAJASTHAN



FIG.4

four deputy inspectresses of girls' schools, one each at Jaipur, Jodhpur, Udaipur, and Bharatpur (Table 3). All these administrators at the division and district level have only administrative and inspecting duties. The headmasters/ headmistresses are the administrators of their respective schools. The higher secondary school headmaster in Rajasthan plays a similar role to that of a principal of any high school in the United States.

Schools are inspected by the inspector of schools and divisional deputy directors once or twice a year, but in rural areas schools may not be inspected even once a year. School inspection is primarily a stimulus for teachers, although it has very little effect on the improvement of instruction. The inspector may visit a school either unannounced or with prior notice. Normally, he visits a few classes at random and writes a report on how the lessons were taught. During his visit most of his time is spent with the headmaster. In case the inspection date is scheduled, there is a great deal of rush and tension among teachers and office personnel. Teachers will arrange the class notes, the daily diary, and students' work in order to impress the inspectors. Following the inspection some inspectors try to gather the staff for a brief speech to discuss departmental policy. The inspectors appear to have little interest in the improvement of teaching and the learning situation. Many inspectors apparently visit schools to collect traveling and daily

TABLE 3

ORGANIZATION AND ADMINISTRATION OF EDUCATION IN RAJASTHAN

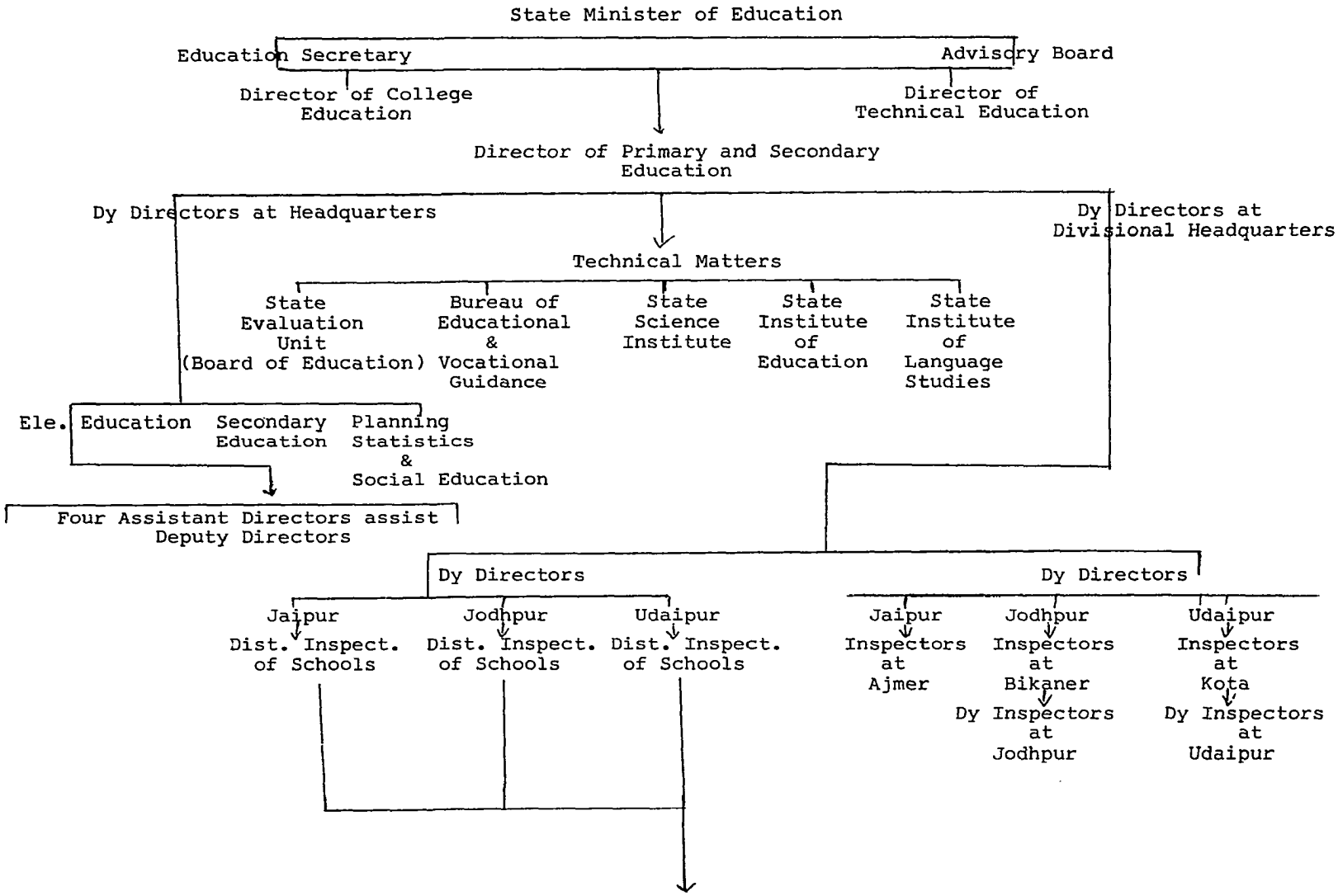
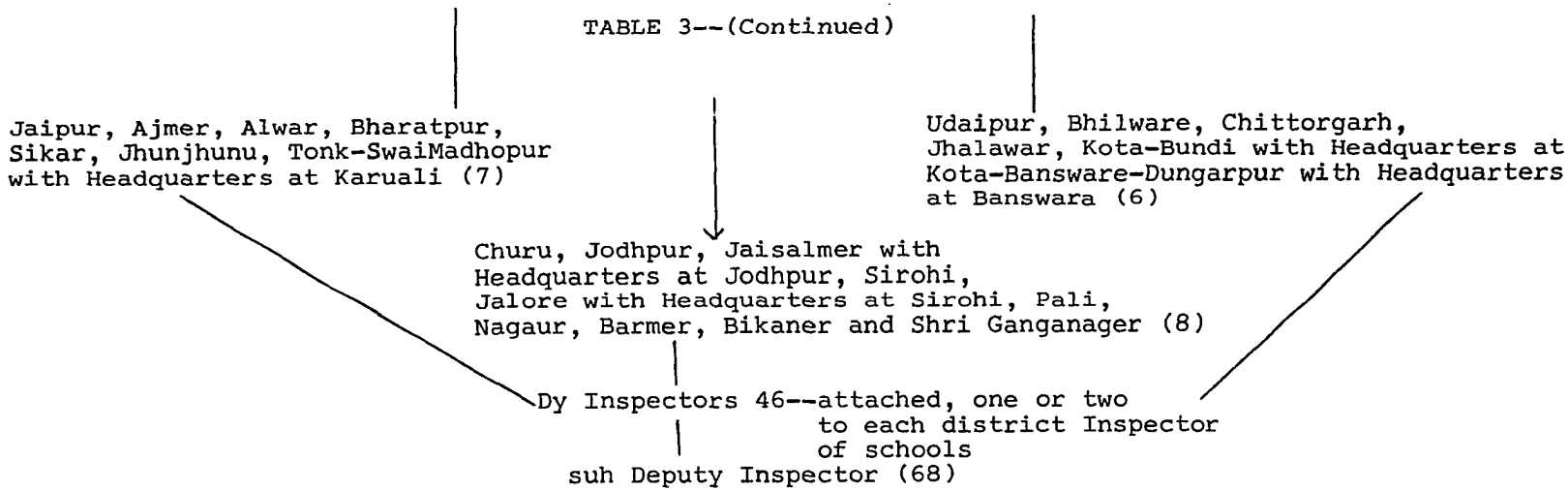


TABLE 3--(Continued)



allowances from the department of education. Mr. B. D. Tripathi while talking to the writer explained that, "the supervision of schools is not proper. The inspector is busy in his office with routine work. Transportation and vehicles are not available. The headmaster also becomes inactive because no inspector comes."[2] Since the inspectors are not enthusiastic about fulfilling their duties, some headmasters and teachers also become slack, especially in rural areas where transportation facilities are not available. The major responsibility of inspection and supervision then falls to the headmasters of the school. The school headmasters are very busy and spend most of their time in performing duties in administration, management, and public relations. Consequently, as in the United States, headmasters of higher secondary schools are forced to neglect their most important responsibilities of supervision and improvement of instruction due to lack of time.

The state department of education is aware of this unfortunate situation. Therefore, provision is being made to make school inspection more worthwhile, keeping the quality of education in mind. Expenditures for school inspection and administration, which has been less than 2 per cent of the total educational budget, is being increased to 5 per

---

[2]Personal interview with Mr. B. D. Tripathi, Principal, Government Teachers Training College, Ajmer, August 22, 1970.

cent. Inspired by American educational practices, some important changes are being made in school administration and others are under consideration. For example, it is proposed that consultants and subject specialists be employed, especially in languages, mathematics, science, physical education, and work-experience to make school inspection meaningful and productive.

Training for school administrators is an unique feature of American education; influenced by this practice, the department of education in Rajasthan has started training programs for school inspectors and higher secondary school headmasters for the improvement of techniques of supervision and inspection. At the directorate level, the number of officers to handle paper work and advise the district officers will be increased. The district inspectors will be given facilities and expert assistance designed to improve the inspection process. This new scheme of supervision is under consideration and will be implemented shortly. The district inspector will act as the leader of a team of academic supervisors. Emphasis will be placed on discussions with the teaching staff in matters pertaining to the implementation of institutional plans and activities. Teachers will be assisted by the subject specialists and consultants in the improvement of teaching. It is also hoped that the heads of institutions will give more time and attention in the future to internal supervision in the schools.

Rajasthan has started training school administrators to improve instruction as found in the United States.

Management

Schools in the various states and Union Territories are managed and controlled by the state governments, local boards, and private bodies. At the high/higher secondary stage private institutions account for more than two-thirds of the total school enrollment of the entire country. Still, only 18.6 per cent of the student population attends private secondary schools in Rajasthan. Actually, 90.95 per cent of the total institutions in the state are managed by the state government through the department of education.

The Government Schools

The government managed schools in Rajasthan are administered primarily through the Department of Education, which is responsible for the administration of all state institutions. A minimum fee at the government institutions is charged at the secondary/higher secondary stage, but education for girls is free to the university level. Government schools, like public schools in the United States, are open to all children regardless of their caste, color or creed. These institutions have certain advantages such as good physical facilities, financial support, and security of tenure and job satisfaction for their teachers. "The over-security of service creates an atmosphere of complacency and

lethargy, especially because the conduct and discipline rules are such that it is difficult to reward merit, and even more so, to punish slackness."[3] The only real fear held by mediocre teachers is of being transferred. In case of punishment, teachers are transferred to other places, sometimes to less desirable rural areas. When a teacher is sent to an unattractive place far from his home, especially on the grounds of punishment, there is the possibility that he will not exert himself in his teaching efforts, and this could contribute to the lowering of local standards of teaching. This system contributes little to teacher motivation and initiative. Some teachers do not supplement their knowledge with new material and they lack enthusiasm for conducting research for improvement of teaching. The fixed salary schedule and automatic annual raises have numerous shortcomings, such as the lack of enthusiasm among teachers for improving their teaching, and lack of interest in school work. On the other hand, some of these weaknesses may be eliminated by initiating merit raises. In government managed schools institutional loyalty is more likely to be missing. "Lack of institutional loyalty is due to frequent transfers and remote administrative and disciplinary control."[4] The

---

[3] "Report of the Education Commission," op. cit., p. 252.

[4] White Paper: Draft (Bikaner: Department of Education, Government of Rajasthan, 1968), p. 37.

government of Rajasthan hopes to minimize the frequent transfers which create instability among the teachers and are economically burdensome to the department of education.

The Panchayat Samiti Schools

Primary schools in rural areas were transferred to the Panchayat Samities (local elected bodies) as a result of democratic decentralization in October, 1959, and the Panchayat Samities receive grants-in-aid from the Department of Education. Despite a heavy grant-in-aid, the Samities have not earmarked any revenues for either improvement of education or academic supervision. Standards of education have deteriorated under the control of Panchayat Samities. The high rate of wastage and stagnation has a number of reasons, such as apathy of parents, child labor, unattractive school atmosphere, rigid and unimaginative attitudes of teachers, shortage of teachers, conventional curriculum, teaching techniques, and inadequate supervision. Supervision is accomplished by the representatives of Panchayat Samities (the Panch, Sarpanch, and Pradhans, etc.) all of whom are elected members and most of whom have very little or no education. "Appointments in primary schools are not based on any clear-cut criteria. Village politics is another headache for poor teachers."[5] Teachers under local management are

---

[5] "Unhappy Teachers," Link, X, No. 30 (March 3, 1968), 18.

unhappy, dissatisfied, and subject to harrassment. They have little opportunity either for transfer or for further promotions. The Rajasthan government has developed uniform conditions of service, including opportunities for general and professional training and promotion for government and Panchayat Samiti teachers. Their remaining grievances are examined by a committee which is to be appointed by the government of Rajasthan. This committee will also advise the government regarding the measures that may be taken to minimize dissatisfaction among teachers serving in the Panchayat Samities.

Private Schools

Besides the government and Panchayat Samiti schools, there are other schools which are managed by wealthy business communities, religious groups, or foreign missionaries. Privately managed schools are of two kinds, aided and unaided. The aided schools are partially financed by the owners and partially by the state government. Unaided schools are fully financed by the managing body. The rules for grants-in-aid are very liberal in Rajasthan and vary from one institution to another. The aided schools are categorized according to the aid schedule, such as: special category, 90 per cent; category A, 80 per cent; category B, 75 per cent; category C, 60 per cent, and category D, 50 per cent of the approved expenditure of the previous year plus the

anticipated annual increment in staff salary. The majority of private secondary/ higher secondary schools charge a very high tuition fee, and this is especially true of the missionary schools.

A small group of private schools maintain high standards of education; however, a majority of them are inefficient. Because of the lack of funds some private schools are being handed over to the state government. The status of teachers among private schools varies greatly. In some schools teachers are not paid regularly and sometimes an established percentage of their salary is deducted in the name of charity or building funds. They may feel threatened by the management, as they can be fired at any time. In such schools, teachers have little freedom of any kind. Teachers in other private schools, however, enjoy higher status and have job satisfaction. Their working conditions are good and proper facilities are provided by the managing authorities. Such schools are managed by foreign missionaries who receive part of their funds from foreign countries, or are managed by very rich industrialists who can afford a high cost of maintenance by receiving tax concessions from the government. The government of Rajasthan is attempting to improve the morale of teachers by forming a uniform policy for all teachers in the state, irrespective of management.

Public Schools

Public schools, Sainik or military, and regional higher secondary schools, are other types of institutions in existence in the state. Public schools were established in British India for the royal princes, the sons of nobles, and British high officials, and were patterned after the public schools of England. There are approximately 40 public schools in India, including three in Rajasthan, and one each in Ajmer, Bikaner, and Jaipur. Mayo College, Ajmer, has been the only college for princes of various Rajas, Maharajas, and Maharanas of Rajputana and has long been considered by many educators as the best institution in the state. It has maintained a high quality of educational standards and may rank second in India only to the Dun Public School of Dehra Dun, Uttar Pradesh. Sadul Public School, Bikaner, was established and supported by the Maharajas of Bikaner. It is famous for its variety of programs and high standards. Maharani Gayatri Devi Girls' Public School in Jaipur was established for the princesses and daughters of royal and noble families, and is among the leading girls' institutions. Admission to any of these public schools is now open for all Indian children based on highly competitive examinations. The majority of public schools are residential in nature and many times more expensive than other high/higher secondary schools. Students have the option to participate in the senior Cambridge, Indian school certificate, or State

Board Examinations. In comparing the public schools with other higher secondary schools Mr. S. R. Das, Principal of Mayo College, Ajmer, commented, "Boys of my school have more security, better creativity, more of the qualities of leadership, and proper adjustment than boys of other institutions." He continued, "Being residential each child gets individual attention, and we emphasize co-curricular activities besides academic subjects."[6]

Military schools are scattered all over the country providing higher secondary education with a military or defense influence. Traditionally, the people of Rajasthan have taken pride in sending their sons for defense training. A new Sainik (soldier) school came into existence at Chittorgarh in 1962, providing education from grade VI to grade XI. Ambitious and suitable students are selected through a difficult competitive examination. Students are given training for careers in the Army, Navy, and Air Force and are prepared for admission into the National Defense Academy. The medium of instruction in military schools, including the Sainik schools, is English. All defense schools are state supported and administered by the Union Minister of Defense. The state governments give full, three quarters, and one-half scholarships to students in order of merit, and other scholarships are awarded by the Ministry of Defense.

---

[6]Personal interview with Mr. S. R. Das, Principal, Mayo College, Ajmer, August 20, 1970.

Four regional training colleges were established in four regions in India at Ajmer, Bhubaneswar, Bhopal, and Mysore in 1963-64. Attached to these colleges are demonstration multipurpose higher secondary schools offering instruction in science, technology, commerce, and agriculture. The regional demonstration schools are financed and administered by the Central government. These schools are experimental and are patterned after American schools. The principals and selected teachers are sent to the United States for orientation and training. These principals and teachers visit various American high schools and study methods of teaching, development of curriculum, administration, and organization. The ideas thus acquired in America are then incorporated in these schools in India. There are also exchange teachers from the United States in these schools. Some of the college professors are educated in the American universities.

Technical Schools or Industrial Training Institutes

"Following the principle of diversification and to make secondary education more meaningful, 86 junior technical schools have been started in the country on an experimental basis."[7] The admission requirements are completion of grade VIII, the same as for entrance into higher secondary schools.

---

[7] Education in Eighteen Years of Freedom (New Delhi: Ministry of Education, Government of India, 1965), p. 21.

The duration of this training is three years, and the purpose of these institutes is to provide opportunities for those who are interested in creative and mechanical work. In Rajasthan there were 14 industrial training institutes in 1964-65, offering courses in a variety of trades. "But recently these institutions have been closed down,"[8] says Mr. Bardia. Technical course organizers and authorities have decided that physical science courses should be the basic requirements for technical education, instead of technical subjects themselves. Since physical sciences are offered in regular higher secondary schools, they believe it is unnecessary to establish separate technical schools. There is a lack of trained technicians who can teach technical courses properly. Only a small number of students were willing to attend these institutions even after getting scholarships. Part of the problem was attributed to parents who wanted their sons to secure white collar jobs instead of becoming technicians or craftsmen. The government of Rajasthan has planned to reorganize technical education and adjust it to manpower needs.

The Polytechnic Schools are found all over India and designed after the technical schools of U.S.S.R., and there is only a minimal amount of American influence.

---

[8]Personal interview with Mr. K. L. Bordia, Chairman, Board of Secondary Education, Rajasthan, Ajmer, August 20, 1970.

Grade Organization

There are four levels in the educational system in India, namely: (1) kindergarten or nursery (one to two years of schooling), (2) primary (4 to 5 years), (3) secondary (5-6 years), and (4) university (3-4 years). The secondary stage comprises different combinations of grades in the different states and Union Territories. Within some states it even varies from region to region. Some secondary schools providing ten-year programs are called "high schools," and others "higher secondary" with one or two additional years (Table 4). Since the Report of the Secondary Education Commission (1953), all of the Indian states and Union Territories, with only a few exceptions, have three stages of education below completion of the first degree course in the universities: primary (five years), secondary (3 years middle plus 2 years high school), and higher education (1 or 2 years of higher secondary, 2 years intermediate, plus 2 years B.A.). Secondary education has been reorganized on the pattern recommended by the Secondary Education Commission as follows:

> (1) Secondary education should begin after a four or five year period of primary or junior basic education and should include (a) the middle or senior basic or junior secondary stage of three years, and (b) higher secondary stage of 4 years.
>
> (2) The present intermediate stage should be replaced by the higher secondary stage, which should be of 4 years duration, one year of the present intermediate being included.

TABLE 4

EXISTING PATTERN OF GRADES

State/Union Territory (1)	Primary Stage (2)	Middle Stage (3)	Secondary Stage (4)
Andhra Pradesh	I-V	VI-VIII	X-XI/IX-XII
Assam	A,B, I-III	IV-VI	VII-X/VII-XI
Bihar	I-V	VI-VII	VIII-XI/I
Gujrat	I-IV	V-VII	VIII-SI
Himachal Pradesh	I-V	VI-VIII	IX-X/IX-XI
Jammu and Kashmir	I-V	VI-VIII	IX-XI
Kerala	I-IV	V-VII	VIII-X/VIII-XI
Madhya Pradesh	I-V	VI-VIII	IX-XI
Madras	I-V	VI-VIII	IX-XI
Maharashtra			
a. Western Maharashtra	I-IV	V-VII	VIII-XI
b. Vidarbha Region	I-IV	VI-VII-VIII	VIII/IX-XI
c. Maharashtra Region	I-V	VI-VIII	IX-XI/IX-XII
Mysore	I-IV	V-VII	VIII-X/VIII-XI
Nagaland	A,B, I & II	III-VI	VII-X-XI
Orissa	I-V	VI-VII	VIII-XI
Punjab	I-V	VI-VIII	IX-X/IX-XI
Rajasthan	I-V	VI-VIII	IX-X/IX-XI
Uttar Pradesh	I-V	VI-VIII	IX-X (XI-XII (college)
West Bengal	I-V	VI-VIII	IX-X/IX-XI
Andaman and Nocobar Islands	I-V	VI-VIII	IX-XI
Dadra and Nagar Haveli	I-IV	V-VII	VIII-XI
Delhi	I-V	VI-VIII	IX-XI
Goa, Daman and Diu	I-IV	V-VII	VIII-XI
Laccadive, Minicoy and Amindive Islands	I-IV	V-VII	VIII-X

TABLE 4--(Continued)

State/Union Territory (1)	Primary Stage (2)	Middle Stage (3)	Secondary Stage (4)
Manipur	A,B, I-II	III-VI	VII-X/VII-XI
NEFA	A,B, I-III	IV-VI	VII-X
Pondi Cherry	I-V	VI-VIII	IX-XI
Tripura	I-V	VI-VIII	IX-X/IX-XI

Source: Second All-India Educational Survey (New Delhi National Council for Educational Research and Training, 1967), p. 412.

(3) As a consequence of the preceding recommendation, the first degree course in the university should be of three years' duration.

(4) For those who have completed high school, there should be a provision of a pre-university course of one year.

(5) Admission to professional colleges should be open to those who have completed higher secondary courses, or who have taken the pre-university course.

(6) Multipurpose schools should be established wherever possible, to provide varied courses of interest to students with diverse aims, aptitudes, and activities.[9]

Following these recommendations, some states have upgraded high schools to higher secondary schools by adding one year, while the state of Uttar Pradesh has retained its existing system of ten year high schools. Both systems of high schools and higher secondary schools exist in three states, Punjab, Orissa, and Rajasthan. Rajasthan discontinued pre-university classes in 1970-71; hence the state has the uniform structure of higher secondary (11 years). The

[9] S. N. Mukerji, "History of Education in India," op. cit., p. 245.

government of Rajasthan also established several multipurpose higher secondary schools whose curriculums are composed of various electives.

In implementing the schemes of higher secondary and multipurpose schools, the Central government has provided financial assistance. Despite tremendous efforts, the following main difficulties were encountered: (a) a dearth of qualified post-graduate teachers, particularly in science, mathematics, and English, and (b) inadequate financial resources to provide additional buildings and salaries of teachers with post-graduate qualifications. Moreover, higher secondary schools have not been opened at suitable places. The opening of such schools appears to have been based on considerations other than the educational needs of the local areas.[10] In some places multipurpose schools have been opened to meet the diverse needs of students. Later, there were not enough students ready to choose those subjects, and consequently the schools were offering instruction in only two or three streams. Besides these difficulties, there has been a massive failure in the higher secondary examination and first year of the three year university course (first year of the three year degree course, T.D.C.). As in other experiments in education, the higher secondary scheme has proved to be a very expensive one.

---

[10]Personal interview with Mr. V. E. D. Rozario, Headmaster, Government Multipurpose Higher Secondary School, Saradhna, Ajmer, August 27, 1970.

To improve the higher secondary system the Education Commission (1966) stressed a uniform national pattern of education, consisting of: (a) a ten year period of general education which may be subdivided into a primary stage of 7 to 8 years (a lower primary of 4 to 5 years and higher primary stage of 2 to 3 years), a lower or junior secondary stage of general education of 2 to 3 years; (b) a higher secondary stage of two years for general education and specialized studies; and (c) a higher education stage having a course of three years or more for the first degree and followed by courses of varying duration for second or research degrees. The new pattern will consist of a total of 15 years toward the first degree course (10 + 2 + 3 = 15) (Table 5). This revised nomenclature will be implemented in all of the Indian States and Union Territories by 1985-86.

TABLE 5

GRADE ORGANIZATION REVISED NOMENCLATURE

Stages	Grades	Duration
Kindergarten	--	1-2 years
Primary	I-VII	1-4 years--lower Primary 3 years--upper Primary
Lower Secondary	VIII-X	3 years
Higher Secondary	XI-XII	2 years
Higher Education	XIII-XV	3 years--First College degree

The 12 year duration for secondary education is expected to be most advantageous for the entire country. Although previously 12 year schooling had been suggested by the Secondary Education Commission, only 11 year schooling has been practiced. This was also suggested by the Conference of State Education Ministers at New Delhi in April, 1964, and supported by leading educators. In the future, however, a revised structure will be introduced. The Education Commission (1966) felt that in most western countries the time required to take the first degree is 15 years and sometimes 16 years. In U.K., U.S.A., France, Sweden, and Germany at least 12 years of schooling is necessary before a student enters the university, and the age of admission to the university is 18 or more.[11] Thus, the school period was lengthened to provide sound general education and to improve the standards of secondary education.

A few states have taken preliminary steps to adopt this new uniform national pattern. The government of Rajasthan, however, does not hope to introduce grade twelve to higher secondary schools before 1975-76 because of financial reasons. It is felt that the government of India should grant special assistance in this field. Rajasthan has always stood in the forefront in adopting and implementing new

---

[11] Discussion Paper on the Major Problems of Secondary Education (New Delhi: Education Commission, Government of India, 1965), p. 11.

schemes and innovations, but surprisingly enough, state educators, including administrators, are in favor of an 11 year higher secondary system. While discussing the grade organization, administrators, including headmasters/headmistresses and teachers of Rajasthan, have differing views and opinions. Miss S. D. David stated, "At this time, 10 year schooling is better when we have to educate our masses, but 11 and 12 year periods are good when the masses are literate." She continued, "It is all right for girls to get secondary education for 10 years and then acquire some training which will be more beneficial in their future life."[12]

Former director of Primary and Secondary Education, Rajasthan, Anil Bordia said, "From the practicality point of view I am in favor of 11 years duration for higher secondary education. It does not matter how many years we teach, but the important consideration is how much we teach. If we can accomplish much more by better teaching methods, richer curriculum, and proper environment in 10 or 11 years, then it is good for us, rather than 12 years."[13] Anil Bordia further said, "Personally, I will not extend the school curriculum beyond 11 years."[14] Some critics believe that the lengthening

---

[12]Personal interview with Miss S. D. David, Headmistress, Mission Girls Secondary School, Ajmer, Rajasthan, August 27, 1970.

[13]Anil Bordia, personal interview.

[14]Ibid.

of the secondary education duration and selectivity for higher education is unconstitutional and will impose a financial burden on poor people. Both Dr. S. N. Mukerji[15] and Dr. J. S. Mehta[16] are of the similar opinion that 12 year schooling is much better for the emerging society. They believe that the 10 + 2 + 3 = 15 pattern is more beneficial because students achieve more training, content, knowledge, and maturity in a 12 year period than in 10 or 11 years. In spite of the personal opinions and arguments of these administrators, the government of Rajasthan intends to comply with the recommendations of the Education Commission (1966), by following the uniform national pattern of education.

The concept of a uniform national pattern of education has been criticized by several individuals and by the international team. The team reported, "While one single pattern of educational structure may be convenient it may not be practical or advisable. Flexibility in structure is a feature which helps growth, efficiency, and adaptability to the needs of society."[17] Strangely enough, the history

---

[15]Personal interview with Dr. S. N. Mukerji, Principal, Vidhya Bhawan Teachers Training College, Udaipur, Rajasthan, July 31, 1970.

[16]Personal interview with Dr. J. S. Mehta, Secretary of Education, Government of Rajasthan, Jaipur, and former Director of Primary and Secondary Education, Rajasthan, August 25, 1970.

[17]A. S. Patel, "Problems of Curriculum Organization," in the Report of the Study by the International Team, The Ford Foundation (New Delhi: Ford Foundation, 1954), p. 18.

of education in India is full of commission reports. When educators and educationists come up with ideas and proposed solutions to problems, such schemes are followed throughout the country. Ten years later another commission makes opposing decisions which result in interesting changes. This is evidence of poor planning and shortsightedness. According to the Education Commission the uniform pattern must be introduced by 1985-86. The question arises as to whether India should try something else, meanwhile. It is unfortunate, in India, that one idea or scheme will never be tried in a few schools but, on the contrary, will be started on a massive scale. Thus, by lack of testing, Indian leaders and educationists play with the lives of students and the welfare of the Indian society.

Common Schools or Neighborhood Schools

The "common schools or neighborhood schools" was suggested by the Education Commission to bring different groups and social classes together and thus to promote an integrated society. In India at the secondary stage, a large proportion of good schools are privately managed, charge high fees and serve the upper class and the top 10 per cent of middle class children, while publicly supported government schools are attended by the bulk of students who come from the lower-middle and poor classes. To fill this gap, and to remove segregation, the common school system of public education will be introduced; common schools will be open to

all children irrespective of caste, creed, community, religion, economic conditions, or social status; access to good education will depend not on wealth or class but on talent; this will help maintain adequate standards in all schools and provide a reasonable proportion of quality instruction; this should meet the needs of the average parent, so that he will not feel pressured to send his children to an expensive school.

"Such an educational system has, for instance, been built up in the U.S.S.R. and is one of the major factors which has contributed to its progress. It has also been developed in different forms and to varying extents in other nations like the U.S.A., France, and the Scandinavian countries."[18] However, R. P. Singh strongly believes that, "Democracy carried to the extremes is another American fad and the neighborhood idea is an extension of the same."[19] In Rajasthan it will be easier to have schools common to all than in other states, because in Rajasthan most secondary schools are controlled, managed, or financially assisted by the government, whereas in other states the majority of schools are managed privately. In either case private enterprise will be discouraged and the state governments will have to increase educational budgets.

---

[18]"Education Commission, 1966," op. cit., p. 10.

[19]R. P. Singh, "American Influences on Indian Education," op. cit., p. 17.

The common school, or neighborhood school, is a controversial issue among educationists and state government administrators. They argue that the only way to establish common schools on a viable basis is to make sure that they can sustain comparison with the rest. They are afraid that common schools will lower standards and the quality of education. The Times of India calls it misplaced zeal, and reports, "It will be ironical if our educational experts in their misplaced zeal are allowed to launch a programme which, without improving standards in areas where improvement is necessary, only achieve a marginal dilution of quality."[20]

The concept of "neighborhood school" or "common school," widely popular in American education has been adopted by India to promote an integrated society.

Curriculum

The organization of secondary education, structure, and duration impose an urgent need for curriculum development. While living in the space age, when the world is shrinking at a faster rate and knowledge is doubling every ten years, no nation can progress without revising its school program and activities. "Even in an educationally advanced nation like the U.S.A. where the traditional curriculum had been radically transformed long ago, under the impact of

---

[20]"Misplaced Zeal," Times of India, October 15, 1968, p. 8.

progressive education, the content of school courses is being challenged by several scholars and university men, and a new reform movement has been started which may bring in sweeping curricular changes in school education."[21] It is, however, essential for a newly independent country like India to keep her youth abreast of the needs of modern times so that she may be able to cope with the developed nations.

The school curriculum in the Indian states has been dominantly academic partly because of "the legacy of the British educational policy,"[22] and partly because of India's past cultural heritage. The development of skills and the inculcation of proper interests, attitudes, and values have been neglected. Consequently, the curriculum has not met the needs of the adolescent and democratic society. "The needs of democratic citizenship will require the development of certain skills, attitudes and qualities of character such as the capacity for clear thinking, the ability to communicate easily with one's fellowmen, the scientific attitudes of mind, a sense of true patriotism and an appreciation of the value of productive work."[23] Thus, the school curriculum should meet the needs of adolescence not only by the acquisition of knowledge but by the "fuller development of the

---

[21] "Education Commission, 1966," op. cit., p. 183.

[22] B. P. Lulla, "Improvement of Secondary School Curriculum," Indian Education, VII, No. 9 (August, 1968), 32.

[23] "Education Commission, 1966," op. cit., p. 187.

physical, emotional, aesthetic and moral aspects of pupil's personality."[24] One can observe a close resemblance between these aims and the aims and purposes of secondary education prescribed by the seven cardinal principles of the National Education Association (1918) and the Education Policy Commission (1936) of the United States. Flexibility is an important consideration in organizing the curriculum, for the curriculum should meet the needs of the gifted, the slow learners, and the average students. "If education is to prepare a child for life, rigidity in our curriculum must go."[25] Flexibility in the curriculum is imperative for realizing the individual's interest and developing his aptitude. The traditional rigidity of the curriculum is ejecting an alarming number of unsuccessful candidates from the schools as dropouts every year. "We, in India, are quite unconcerned about the fate of dropouts. A little flexibility in curriculum to accommodate them may turn them into productive and purposeful members of the society."[26] To achieve the aims and purposes of education the secondary school curriculum is organized under three phases: (1) course content, (2) co-curricular activities, and (3) a school guidance program. Furthermore, the courses of the secondary/higher secondary

---

[24] Ibid.

[25] Dr. J. S. Mehta, personal interview.

[26] Ibid.

school can be divided into two categories: (a) general education courses under the heading of compulsory subjects, and (b) specialized courses under the heading of electives or optional subjects.

General Education

The general education program is new to the Indian high/higher secondary school curriculum. "In our efforts to reconstruct our educational system we have in the post-independence period borrowed several ideas from the United States and one such idea is that of general education."[27] Similar views are expressed by Dr. R. P. Singh, "Some of the typical American ideas have been embodied in the Indian educational system. General education, for example, is an accepted practice in the United States because they have to offset the baneful influence of specialization in narrow disciplines."[28] General education has merit and may provide some answers to the numerous problems of a developing society.

In India, as in the United States, general education "courses are required for all students, designed to develop the skills, attitudes, and knowledge needed for citizenship

---

[27]G. Ramanathan, "The Quest for General Education," Illustrated Weekly, LXXXX, No. 28 (July 13, 1969), 46.

[28]Personal interview with Dr. R. P. Singh, Reader, Comparative Education, National Institute of Education, New Delhi, August 19, 1970.

or family membership,"[29] regardless of their interests, aptitudes, or intelligence. Although offered subjects and course content at the secondary stage vary from one state to another, the majority of states, including Rajasthan, have organized general education courses on the recommendation of the Secondary Education Commission (1953). In the future, schools will follow the guidelines provided by the Education Commission (1966). As indicated earlier, both of these commissions have drawn from ideas and views in the United States' secondary school practices. Currently, the higher secondary schools (grades IX-XI) of Rajasthan offer the following subjects to constitute general education: (1) Hindi, (2) English, (3) Social Studies, (4) General Science, (5) Elementary Mathematics, (6) Physical Education, (7) a Third Language, selected from any one of the following: Sanskrit, Urdu, Gujarati, Punjabi, and Sindhi; (in other states, in addition to the mentioned languages, Assamese, Bengali, Kannad, Kashmiri, Malyalam, Marathi, Orria, Tamil, and Telgu are offered. The third language offered varies from state to state), and (8) Crafts, to be chosen from one of the following: woodwork, metalwork, general engineering, clay modeling, leatherwork, tailoring, hand spinning and weaving, gardening, elementary agriculture, engineering, farm technology (only

---

[29] Kimball Wiles, The Changing Curriculum of the American High School (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), p. 122.

for students electing agriculture), typing in English or Hindi, drawing and painting, domestic science, embroidery and needlework (not for those who elect home science as an optional stream), and vocal and instrumental music (not allowed for music group), and recently, crafts has been replaced by work-experience.

In Rajasthan a student is required to study all of the compulsory subjects for 2 years (grades IX-X) and to appear for a secondary school examination at the end of the tenth year in four of the eight subjects. Both Hindi and English are continued to the end of the eleventh year, e.g., to the higher secondary examination, and physical education has no formal examination. Also, a passing grade in crafts is not compulsory in Rajasthan.

According to the Education Commission (1966) changes are being made, although not yet implemented, in the general education program. There will be a uniform curriculum to strengthen general education in the first ten years of schooling. The diversification of studies and specialization will be postponed until the beginning of the higher secondary stage (grades XI-XII). Hence, the subjects at the lower secondary level (grades VIII-X) should be organized as a continuous program of studies; but with the increasing maturity of students, their study must be intensified in depth. The report emphasized that general education should be made more inclusive and should include: (a) three languages, (b) mathematics,

(c) general science, (d) history, geography, civics, (e) art, (f) work-experience and social service, (g) physical education, and (h) education in moral and spiritual values.

The Government of Rajasthan has accepted the recommendations of the Education Commission (1966) to develop a uniform curriculum in grades I-X. "In the new curriculum the study of Hindi, science, and mathematics will be strengthened."[30] Core subjects like social studies, elementary mathematics, general science, crafts and the third language are to be scheduled for three periods a week. In the case of languages, the mother tongue and foreign language (English) are to be given nine periods per week. The increased emphasis on languages raises a problem of imbalance in teaching core subjects. Therefore, in the new scheme sufficient time will be provided for science, mathematics, and other subjects, as specialization will not begin before grade XI.

Languages

In grades I-X a study of three languages is required although the study of two languages will continue into higher secondary grades (XI-XII). The educationists and political leaders have reached an agreement on a three-language formula which is expected to meet the varied linguistic needs of the

---

[30] A Draft Paper on Educational Development in Rajasthan, 1968-69 to 1975-76, Official Report (Bikaner: Directorate of Primary and Secondary Education, Rajasthan, 1968), p. 42.

people and to establish equality between Hindi and non-Hindi speaking areas. The Central Advisory Board of Education in 1956 devised a three language formula, approved by a conference of Chief Ministers (of all the states) held in 1961. The idea of three languages received moral support from the educational practices of the Soviet Union and the Scandinavian countries.

There has been a great deal of controversy over the increased work load for students with the introduction of the three-language formula. In spite of these arguments, the matter was resolved when a visiting Indian delegation to the Soviet Union in September-October, 1961, raised the question of student loads. The Soviet reply reads, "Curriculum of special foreign language school in a national republic involves the learning of three languages in Grade II onwards--the native languages, Russian, and the foreign language. . . . It is undoubtedly heavy but so is every task that is worth doing. Our pupils like challenging work and there are more pupils wanting admission into these schools than there are places."[31] Indian educationists supported this position by citing the example of the Scandinavian countries where, "study of languages is taken up with a great zeal and enthusiasm and children and adults are proud of their achievements

---

[31]Education in Soviet Union (New Delhi: Ministry of Education, Government of India, 1962), p. 78.

in three or four languages."[32] Hence the three-language formula was approved, and includes: (1) The mother tongue or the regional language, (2) the language of the administration or the associate official language of the Union, which is English (which will be replaced by Hindi in time), (3) a modern Indian or foreign language not covered under (1) and (2), and other than that used as the medium of instruction. The third language will be selected from the following groups: (a) modern Indian languages, (b) modern foreign languages, and (c) classical languages--Indian and foreign languages (Table 6).

Since Rajasthan is a Hindi speaking area, Hindi and English are compulsory, and the third language is chosen from Urdu, Sanskrit, Gujarati, Punjabi, and Sindhi. It will include modern Indian languages as soon as facilities for instruction can be made available.

English will continue to enjoy high status, being important as the library language. It is "still the medium of instruction at the majority of Indian universities; it is still the language of science and technology; it is still the language of law and international communication,"[33] although some states such as Gujarat and Madhya Pradesh have

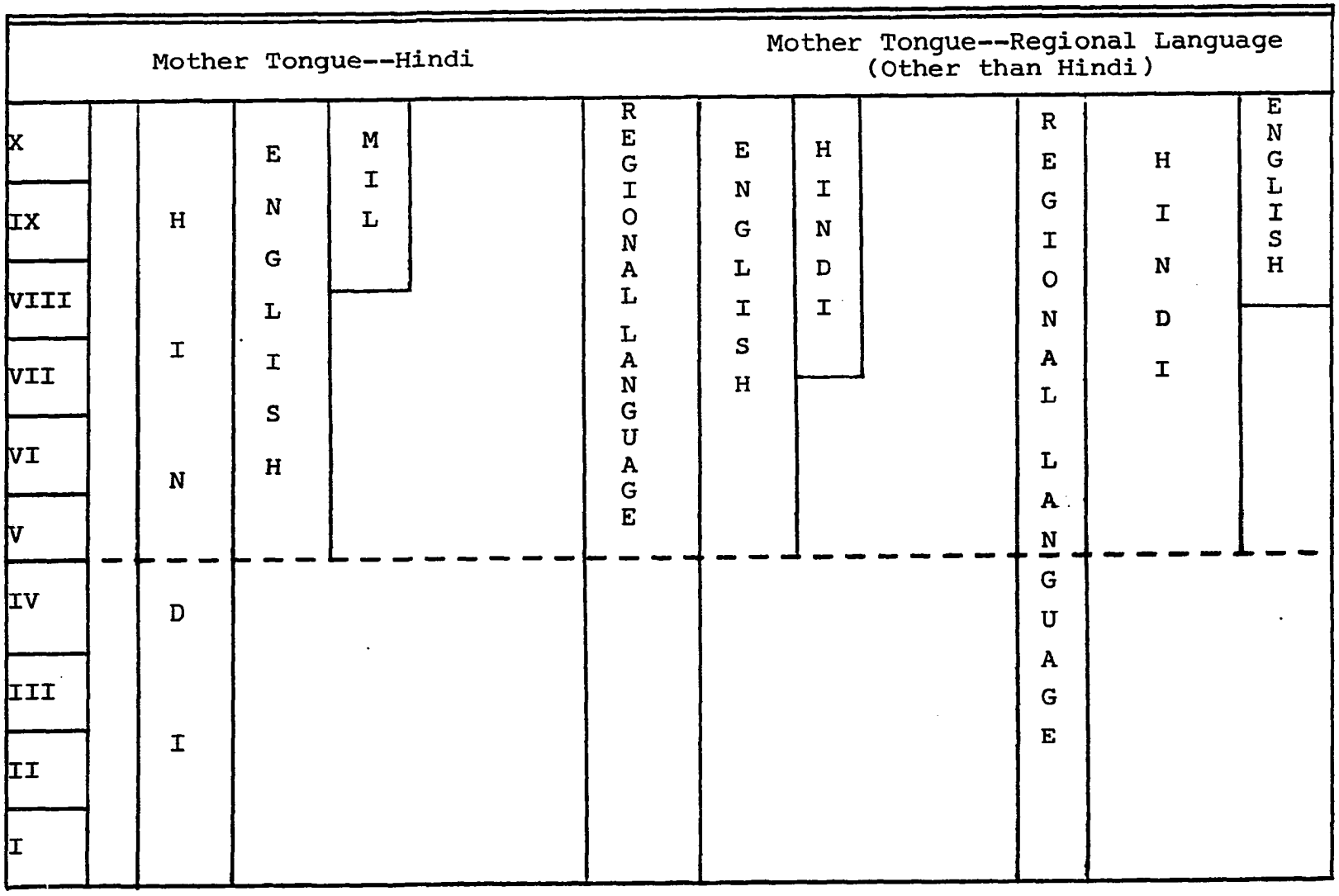
---

[32]Miss S. Pnanndikar, "Education Commission (1966)," op. cit., p. 195.

[33]"Education in India in 20th Century," op. cit., p. 157.

TABLE 6

THE STUDY OF LANGUAGES AT SCHOOL (GRADES I-X)



M.I.L. = Modern Indian Language

Source: The Report of Education Commission (1964-66), (New Delhi: Ministry of Education, Government of India, The Manager Publication, 1966), p. 194.

eliminated English from the core curriculum to improve standards in other subjects. In Rajasthan there was some difference of opinion about teaching English as a compulsory subject because of the arguments that the largest number of failures occur in this subject and that the majority of students who do not pursue higher education have no use for English. Nevertheless, the majority of state educators and officials favor retaining English as a core subject. Hindi is the national language and will become the lingua franca of the country in time. Both Hindi and English are link languages and function as national and social instruments. The third language will introduce the students of one state to another state.

The adoption of the three-language formula has not proved fruitful, so far. Students study two languages very well; it is, however, noticed that the third language which is classical or the language of another state, or a foreign language, is more easily forgotten. With only two or three years of study, plus lack of use, the third language in some parts of the country may be a loss. It is also difficult to get trained bilingual teachers who can both motivate and teach students properly. There is generally a very limited mobility among the teacher community. Furthermore, a school will only be able to employ a limited number of teachers for the teaching of a few languages. Thus the choice of a third language for students will also be limited.

In reorganizing the language curriculum in India, the major influence is not American but rather Russian and Scandinavian.

Elementary Mathematics

At the high/higher secondary school level mathematics is a required subject as a part of general education, and includes arithmetic, algebra, and geometry. In Rajasthan, as in some other states, the teaching of arithmetic begins in the first grade and algebra and geometry are gradually introduced beginning in grade VI. The syllabus and contents of arithmetic are too broad and detailed, compared to algebra and geometry. Traditionally, students in Rajasthan, like those in other states, perform well in mathematics although a large number of failures in the subject are encountered at the secondary school examination, because of superficial teaching methods and lack of time. The teaching of mathematics should be given more time in the school schedule, and more attention should be devoted to algebra and geometry. The use of the school mathematics study group of Yale University has been recommended by the Education Commission to improve algebra and geometry. Instruction in mathematics is completed after the grade X examination.

The content of the mathematics curriculum is reorganized to upgrade especially algebra and geometry. Improvements were based on recommendations of experts and teachers from the United States.

General Science

Some states offer general science at the high/higher secondary stage both as a compulsory subject and as an elective to those who choose it for a career. In other states, science is offered only as an elective. Rajasthan falls in the first category where general science is taught from grade I to X as a core subject and offered under electives from grade IX for those who choose the science stream. In Rajasthan, prior to 1954, anatomy, physiology and hygiene or domestic science (for girls only) were part of the curriculum instead of general science. The concept of general science as a required subject has been adopted from the educational system of the United States. The authorities at both Central government and state levels report that the implementation of general science in the Indian curriculum has been derived from the U.S.A. The statement made by the Chairman, Board of Secondary Education, Rajasthan, reads, "Curriculum of secondary schools in Rajasthan has been improved on American pattern. Besides social studies, general science has come from U.S.A. as a result of the idea of integrated knowledge."[34]

The general science curriculum has taken its contents from physics, chemistry, and biology, and the subject in grades I-X is taught improperly. Science teaching in Rajasthan, like other states, is suffering from the non-availability of qualified teachers and the lack of laboratory

[34]Mr. K. L. Bordia, personal interview.

facilities and equipment. The course content and textbooks are derived from the American course, but the students come from a different environment. There is no relationship between general science teaching and the students' backgrounds. Hence the subject is taught in a superficial and uninteresting manner and promotes rote memorization. Some officials like Mr. S. R. Das realize that "there is a tendency in India of copying, i.e., science teaching; because of copying, it does not fit. We should have taken ideas from the United States and made our own syllabus. Then it would have been better."[35] Authorities in Rajasthan are aware of this situation and recently the Board of Secondary Education has revised the general science syllabus.

Social Studies

Social studies is a new subject for Indian secondary/higher secondary schools. Like general science, it has been introduced as a required subject following a major recommendation of the Secondary Education Commission. Nevertheless, in Rajasthan, history, geography, and civics have been required courses to grade VIII. A great deal of thought has been given to the integration of subjects rather than teaching them in fragmentation, such as history, geography, economics, and civics. "This approach got moral strength through the development of a similar concept of teaching

---

[35]Mr. S. R. Das, personal interview.

social studies and general science in America. Courses of study, therefore, in history, geography, economics, and civics were fused together and were called social studies."[36] Curriculum organizers at the Central government and state levels realize that the teaching of social studies at the high/higher secondary level in an integrated manner has been adapted in India from the Americans. "Our secondary education is influenced mostly by the United States in recent years. Social studies besides other subjects are solely an American feature. Most educational literature pertaining to new innovations and curricular change is available in American books."[37]

Rajasthan secondary/higher secondary school social studies program primarily consists of history, geography, civics, economics, while in some other states sociology and current events are included. Like the other core subjects in Rajasthan, social studies is taught for two years (grades IX-X) at the secondary level three periods a week.

As in the United States, due to the integrated approach of organizing the social studies curriculum in Indian schools, history is dominant and geography is neglected. Traditionally, as in European countries, geography is very

---

[36]Gulab Chaurasia and Gopinath Kaul, "Recent Trends and Developments in Primary and Secondary Education in India," International Review of Education, XIII, No. 3 (July, 1967), 350.

[37]Mr. B. D. Tripathi, personal interview.

popular with Indian students and teachers and considered to be an important school subject. The Education Commission (1966) recommended the teaching of history, geography, and civics separately to offset the imbalance created by the integration of subjects, a recommendation which has had strong support from some American educators. Officials in Rajasthan are of the opinion that geography is an essential subject which has been neglected. "But at the same time there is no alternative which will give students knowledge of all the subjects without neglecting some or over burdening the curriculum."[38] Actually, the social studies curriculum is detailed, loaded with facts and events, and one-sided, as current problems and social aspects are ignored. The integration or separation of social studies needs to be given further consideration. History, as it is presently taught, should be curtailed and attention should be given to an approach to the teaching of history which will promote deeper understanding by students.

Social studies and general science have been added to the secondary curriculum and are taught in the same broad integrated subject areas as are found in the United States.

Work-Experience, Social Service, and Community Living

A crafts and activity-centered curriculum and its correlation to other subjects was emphasized by Mahatama

---

[38] Ibid.

Gandhi through Basic Education. He stressed creativity in education through hand, heart, and head, instead of the 3 R's, by relating instruction to the pupils' environment. Thus, crafts was introduced to the secondary school curriculum and later became compulsory in a majority of the states as recommended by the Secondary Education Commission. But the importance of handwork and dignity for manual labor was not realized until after the Chinese invasion in 1962. At that time there was a need to help in national defense and to increase national productivity, and teachers and students were asked to cooperate.

The government of India introduced a scheme called "Defense Corps," a systematic organization of various activities to be included in the school program. Perhaps no other country needs to recognize the importance of the dignity of labor to the extent that India does. School children and youth feel personal disgrace in working manually and that it is beneath their social prestige to be involved in manual labor. Thus, the Education Commission strongly urged that work-experience and social service be introduced into the curriculum, involving participation in some form of productive work under a real life situation as an integral part of general education at all stages of school life.

The work-experience and social service activities provides the high/higher secondary stage students experience in workshops, agriculture and poultry farms, and industrial

or commercial establishments. The Education Commission indicated that a list of work-experience programs and schools should be chosen to fit individual and local conditions. At the secondary/higher secondary level (grades VIII-XII) the activities will include: woodwork, metalwork, basketwork, leatherwork, ceramics, soapmaking, the making of simple scientific equipment, classroom decoration, carpetmaking, bookbinding, linoleum, fabric printing, tailoring, toymaking, millinery, wood carving, simple farm mechanics, animal care, crop care, care of the soil, and workshop practices. Similarly every school will develop its own program of labor and social service camps which will run throughout the year except during the monsoon season. Each student is expected to attend these camps either for 10 full days in a year or for 20 days during his higher secondary years. In camp life, students will be associated with both intellectual work (not connected with school studies) and manual work.

"Rajasthan is a homeland of arts and crafts. The child in Rajasthan traditionally receives training in vocational arts and crafts through participation in family avocations. The schools for training in arts and crafts have been in existence for decades."[39] The state has already introduced a comprehensive work-experience program in 1961-62 under the scheme of "earn while you learn" launched by Dr.

---

[39] J. S. Mehta, "Comparative Work Experience Programme," Naya Shikshak, XI, No. 4 (April-June, 1969), 48.

J. S. Mehta, Secretary of Education and formerly the Director of Primary and Secondary Education, Rajasthan, for effective utilization of summer vacations. Its main activities consist of (a) remedial teaching, (b) holding a paying position, (c) physical development through games and sports, and (d) development of self-study habits through libraries and reading rooms. The scheme has achieved success, and received appreciation and admiration from every corner of the country.

For further improvement, the Department of Education of Rajasthan is hoping to establish cottage industries in schools with the assistance of other departments and agencies. Where potentialities exist, work-experience programs will be centered around local industries. Special arrangements will be made to provide experiences and skill in work-experience and community living.

The introduction of work-experience as a compulsory activity is an American influence on Indian schools. Although work experience is also found in U.S.S.R. schools, its goals in India is to develop productive and efficient citizens.

Physical Education

Physical education is compulsory in all schools and at all school stages, but previously, it emphasized only physical fitness, games, and a few sports. According to the Education Commission, "physical education programs must aim to promote physical efficiency, mental alertness, and the

development of certain qualities like perserverance, team spirit, leadership, obedience to rules, moderation in victory, and balance in defeat."[40] The National Fitness Corps Program of physical education has been started in an integrated form for middle, high, and higher secondary schools. The program has been accepted and is being implemented by most of the states and Union Territories. Its physical education activities include developmental exercises, rhythmic activities, sports and games, and group-handling activities. The Rajasthan State Sports Council is doing some pioneering work for the improvement of standards of games and sports in the state, and consequently, Rajasthan's sport talent is developing somewhat ahead of other states. In spite of this advancement in sports and games, some schools need playgrounds and equipment. The most important of the other requirements is the time factor, as the academic heads of many institutions neglect the sports and games programs. Recently in Punjab and Haryana states, a special requirement was introduced in the universities that each student had to complete a required number of hours in physical education before he qualified for graduation. No such requirement had existed before in the history of Indian education.

---

[40] "Education Commission, 1966," op. cit., p. 205.

Education on Social, Moral, and Spiritual Values

Since India is a secular country, no religious instruction is provided in the government-managed schools. Regardless of their religious beliefs a majority of Indians stress the teaching of moral, ethical, and spiritual values, and character building for their children. It is a difficult task to organize a moral and spiritual instruction which reflects secularism without emphasizing or neglecting aspects of any particular religious group. "Fortunately, some good literature on this subject is available from researches and experiments carried out in the U.S.A. and we may avail ourselves fully of it."[41] Currently Rajasthan schools impart instruction in moral, spiritual, ethical values, and national consciousness through subjects like social studies, literature, history, and through the celebration of multi-religious festivals in schools to inculcate the values of cooperation and mutual regard, honesty, integrity, discipline, and social responsibility.

Electives or Optional Subjects

The higher secondary education and multipurpose schools were recommended by the Secondary Education Commission, and some states, including Rajasthan, have implemented the scheme. It provides diversification of studies in seven

---

[41] J. P. Naik, "Educational Planning in India," op. cit., p. 88.

streams: humanities, science, technology, agriculture, commerce, home science, and fine arts (Table 7). Individual schools, however, make their own selection of streams according to local needs and conditions. Three subjects are elected from any one group for specialized studies to suit the different interests, aptitudes, and individual needs of adolescent students. In the existing higher secondary and multipurpose schools of Rajasthan, specialization begins with grade IX and is continuous to the end of grade XI. Thus, each student in grades IX-XI is expected to study five academic subjects--three electives and two languages which he has studied in grade X--besides general education, physical education and co-curricular activities.

Subjects offered under this diversified scheme, and the procedures for their selection, vary from one state to another. In Rajasthan the selection of science subjects depends on the student's past performance, expected career, teachers' recommendations, intelligence, and aptitude tests furnished by the State Bureau of Educational and Vocational Guidance and, most important of all, his parents' wishes. Science and technology groups are chosen by those who wish to join medical or engineering branches, and similarly agriculture and commerce by future farmers, businessmen, or lawyers. Fine arts is chosen only by those who are interested and talented in music, drawing, and painting. Home science is offered only in girls' schools as no male students wish to

TABLE 7

OPTIONALS OFFERED IN RAJASTHAN

NOTE: STUDENTS MAY ELECT THREE SUBJECTS ONLY, FROM ANY ONE GROUP

Humanities 1	Science* Biology 2	Mathematics 3	Agriculture 4	Home Science 5	Commerce 6	Fine Arts 7
1 Economics	1 Physics		1 General Agriculture	1 Household management Human relations, Clothing and Textiles	No. 1-2 compulsory Choose total 3.	1 Drawing and Painting
2 Civics	2 Chemistry		2 Animal Husbandry and Dairying	2 Food nutrition and cookery	1 Bookkeeping	2 Handicrafts
3 Sanskrit advanced	3 Biology		3 Horticulture	3 Physiology, Hygiene, Mothercraft, Childcare, and Child psychology	2 Commercial practice	3 Music Vocal and Instrumental
4 History	4 Geography				3 Anyone out of following:	
5 Geography	5 Mathematics advanced				i Economics and Commercial Geography	
6 Mathematics advanced					ii Elements of Banking or	
7 Advanced English					iii Elements of Insurance or	
8 Hindi, or Sindhi, or Urdu, or Gujarati or Punjabi					iv Any two from following:	
9 Persian					a Typewriting in Hindi	
10 Music					b Typewriting in English	
11 Drawing and Painting					c Shorthand in Hindi	
12 Home Science					d Shorthand in English	
IX Maximum of two from amongst the subjects at numbers 10, 11, 12						

In grade IX and X students have to acquire proficiency in Physics, Chemistry, Mathematics, and Biology

*Technology group includes Mathematics, Physics, and Chemistry. Geography is included in technology as well as medical group.

Medical group includes Physics, Chemistry, and Biology

take it. There is a great rush for participation in science groups as every parent wishes his child to study science and become a doctor or engineer because of the prestige attached to these professions. The humanities group is chosen by the majority of students who are not accepted in science groups, do not wish to develop a bright career, or do not feel capable of studying subjects from the other branches. The agriculture group is elected by only a few students as even the students with farming backgrounds wish to study subjects other than agriculture. The agriculture graduates also look for white collar jobs rather than toward coursework to improve their own land in the village.

Each elective subject has two separate broad areas of studies called papers (courses) from the examination and instructional point of view. For example, a student choosing civics studies principles of civics for his first paper and the constitution of India for his second paper. Similarly, a student taking history as his one elective subject specializes in world history as well as in Indian history. Students of science, home science, agriculture and technology must participate in theoretical as well as practical examinations. All examinations in each elective subject and paper are conducted by the Board of Secondary Education, Rajasthan, Ajmer, at the close of grade XI. The students are expected to earn passing grades in all papers of theory and practical examinations. A failure in one subject results in the failure in

all subjects, and a student then has to repeat the grade.

The weakness of the existing elective program has been described by several experts and the Education Commission. In the present scheme, specialization begins too early, i.e., grade IX, when the students are not mature enough to be classified in the pre-engineering or pre-medical groups. The general education period is too brief, as the specialized subjects and core subjects are studied simultaneously. There is rigidity and sharp distinction in the choice of subjects; for example, a student choosing the science stream cannot study English literature or economics because both of these subjects are to be studied only by those in humanities. Thus, the Education Commission suggested extending the period of general education to the first ten years, and beginning specialization in grade XI instead of IX. There will be flexibility and elasticity in offering the subjects. A student will have complete freedom of choice as he may choose three optional subjects from two or three different streams. This scheme will be very similar to the high school elective program in the United States. Furthermore, the seven streams will be reduced to two broader categories under arts and sciences, and "since the technical, commercial, and agricultural courses and probably also courses in fine arts, and home science will in future be studied generally speaking in special vocational institutions,"[42] rather than

---

[42]"Education Commission, 1966," op. cit., p. 189.

academic schools. The Commission suggested a list of specialized and elective subject areas which will form part of the higher secondary curriculum (grades XI-XII): (1) any two of three languages which he has studied; (2) any three subjects from the following: (a) an additional language, (b) history, (c) geography, (d) economics, (e) logic, (f) psychology, (g) sociology, (h) art, (i) physics, (j) chemistry, (k) mathematics, (l) biology, (m) geology, (n) home science; (3) work experience and social service; (4) physical education; (5) arts and crafts; and (6) education in moral and spiritual values.

Changes in this suggested list of subjects can be made only by an expert body consisting of representatives of the universities, the State Board of School Education, and the State Department of Education. Secondary education will become vocation oriented, and the Education Commission recommended that "50 per cent of those who wish to continue their studies beyond class X are expected to take up full-time or part-time vocational courses and 50 per cent will be in courses of general education."[43] The Commission also stated that 20 per cent of the students will join vocational schools after completing their general education, i.e., grade X. As mentioned earlier, the Rajasthan government will implement the new scheme of electives after 1975-76.

---

[43] Ibid.

The Board of Secondary Education in Rajasthan has revised the curriculum of all school subjects, and curriculum development in the state is now regarded as a continuous process. The state officials, teachers, and the Board of Education are involved in the process of reorganizing and improving the curriculum. In the future, special attention will be given to the areas of science, mathematics, and languages.

The freedom of choice is based on practices of American schools where a variety of electives are offered, and a student is free to select his courses according to his abilities, needs and interests.

Co-Curricular Activities

Realizing the importance of co-curricular activities for the well-rounded development of students, and to promote consciousness of national unity, the educationists have suggested the need for giving them an increased emphasis in school programs. The functions of co-curricular activities are dual--scholastic and non-scholastic; they supplement the syllabus and help the students in acquiring creativity, self-expression, and human values like sympathy, kindliness, and tolerance which are essential for successful living.

> For this purpose we can choose relevant content and activities which may be based on premises fundamental to our nationhood, including certain central concepts like democracy, secularism, co-existence, etc., the interdependence of states, people, and groups; the advantages of a strong and unified nation; harmfulness

> of conflicts within groups; the place of India in the present day world; the richness of our national heritage and present achievements.[44]

Currently, the Rajasthan Department of Education and other state government departments suggest varied co-curricular activities for their schools, to meet personal, social, and national needs. In Rajasthan at the higher secondary level, besides student government and educational tours, thirteen other activities are available for students in school programs. Nevertheless, schools vary to a great extent in the facilities they provide for pupils for co-curricular activities. Some of these programs have been referred to under work-experience, social service, and physical education. The extra class activities can be divided into two broad categories: literary and cultural activities.

Literary Activities

Every student must participate regularly in at least one of these extra class activities: (a) literary--(1) debate, (2) creative writing, or (3) recitation; (b) cultural--(1) dramatics, (2) music, or (3) dancing.

Another activity is games and sports, in which participation is necessary in at least two of these activities: (1) sports, including track and field events, (2) swimming,

---

[44] "The Nation and the School," National Council of Educational Research and Training (New Delhi: Publication Unit, N.C.E.R.T., 1969), p. 67.

(3) gymnastics, (4) national cadet corps, (5) scouting and guiding, or (6) community service.

These activities are organized to meet at least twice each week. The three literary and three cultural activities are organized during school hours, and especially on every Saturday in the last two periods of classes. Students are encouraged to participate in as many activities as they wish. The minimum requirement, however, for every student, is to participate in one of the first six, and two of the following group of activities: swimming, gymnastics, national cadet corps, community service, scouting, and sports, and these latter activities may be scheduled either within the school day or after school hours.

Debate

Debate is arranged to give the students practice in the art of debating and discussion, especially in grades IX-XI, but higher secondary students do not have much opportunity to participate in group discussion because of overcrowded classes and an overloaded curriculum. Hence, students are encouraged to participate in school debates and discussion. Within the state, debating topics are chosen from social, cultural, local, national, and international issues and assigned to students prior to the due date or announced extemporaneous. Students have the choice of preparing and organizing their thoughts, either in favor of or against the

matter. They are inspired to deliver their speeches flawlessly and confidently without reading from their papers. Judges are selected from the student body and are asked to rate the debates. Debate competitions are also held at the district (county) and state levels.

Creative Writing

Creative writing includes the writing of essays, stories, one-act plays, the composing of poems, and the critical examination of prose or poetry, and competitions take place at the school, district, and state levels. The majority of higher secondary schools in the state publish annual magazines with the help of students and teachers who write articles, poems, critical analyses of events, essays, collection of sayings of great men and writers. Unfortunately, not very many teachers either contribute to these magazines or encourage their students to do so. The librarian plays a negligible role in assisting students in researching material, and normally school librarians are little more than caretakers of the books. Each school prepares a bulletin board with the help of students where important daily news and events are written and other materials are displayed.

Recitation

Students at the secondary stage recite inspiring quotations, sayings, poems, and prose passages, for Saturday activities and competition. Traditionally, the majority of

children develop an interest in the recitation of poems before they even enter first grade. One can find students for all grades reciting poems in their leisure time. The Antyakshri[45] and Kavi Sammelans[46] are two of the several forms of recitation most liked by adolescents. These competitions are purely literary in nature and encourage students to learn more, without putting forth too much effort, as they perform for fun and enjoyment. It also helps students in writing essays or answers for examination, where they can quote any authority to make their answers more profound.

Cultural Activities--Dramatics, Music and Dancing

Music, dance, drama, plays, mono-acting, fancy dress, comedy, portraying famous comedians, and model displays are some of the cultural activities offered in the higher secondary schools of Rajasthan. These activities require time, effort, and funds, but cultural programs are arranged at least once or twice a year in every school. The majority of schools celebrate their annual function and cultural activities and school exhibitions are displayed for parents and the

---

[45]Antyakshri denotes to the competition between two parties where a member of one party recite a stanza from a poem, and the member of the other party start reciting stanza from any poem beginning with the ending letter of the first party's recitation.

[46]Kavi = poet, and Sammelan = conference. Kavi Sammelan denoted to a conference of students and teachers where a competition of poetry recitation takes place.

community. Competitions take place between school, district, and state level programs.

Physical Education

Games and Sports

"Due to vigorous efforts of the Government, Rajasthan is now one among the leading states of India in games and sports."[47] These activities improved considerable after the Chinese invasion, and have formed an integral part of the school program to encourage students to develop healthy bodies and minds. To promote physical fitness among school-going children and youth, the Rajasthan Sports Council and an Advisory Board on Physical Education and Recreation have started regional coaching centers for promoting players and athletes. Coaches, athletes, and players from other states and abroad are invited to share their experiences with Rajasthan's people once a year. Annual tournaments are conducted at the school, district, division, and state levels, both for boys and girls. Finally, such competitions are conducted on a national basis. It is gratifying to note that students from Rajasthan are earning a fine reputation in games and athletic contests conducted at the All-India level. Nevertheless, some deserving students do not have opportunities for enough practice because some school administrators

---

[47] White Paper (Bikaner: Department of Education, Government of Rajasthan, 1968), p. 3.

become conscious of the importance of participation only at the time of the tournaments. In addition to the need for more funds and personnel, heads of such institutions need to schedule more time for games, sports, and physical education. To promote games and sports activities the Department of Education has made participation compulsory for all students at least twice a week.

Swimming and Gymnastics

Both swimming and gymnastics are possible in a few schools where the necessary equipment, swimming pools, and trained teachers are available. Thus, these activities are not offered in every school, but schools can offer these activities, provided a certain number of students desire participation and the facilities are available.

Scouting and Guiding

Bharat Scouts and Guides is in charge of school scouting activities and foster the movement throughout India. Rajasthan State Bharat Scouts and Guides is the organizing body for the expansion of scouting and guiding activities in the state. Scouts and guides impart training in character development and citizenship. Hikes, camps, and other campfire programs are arranged in higher secondary schools every year. The Central government "supports the movement by extending financial assistance towards the administrative expenses of its National Headquarters, the deputation of

scouts and guides abroad for participation in the international jamborees and conferences, and towards holding such jamborees/conferences in India."[48] Scouting is a very interesting and valuable activity but often is conducted in a very mechanical and dull manner.

National Cadet Corps/Auxiliary Cadet Corps

The National Cadet Corps is compulsory for every able male student in all the colleges/universities of the state. To begin with, the idea of a national youth movement consisted of a senior division made up of Army, Navy, and Air Wings and limited to universities and colleges, a junior division, confined to school, and a girls' division, composed of both senior and junior divisions. At the junior division (higher secondary stage) N.C.C. is optional, although it is selected by many boys and girls. It is controlled by N.C.C. authorities and defense personnel; however, schools can make it possible for interested students to participate. School teachers are also being trained to become officers in the National Cadet Corps Service. Cadets are required to attend 10 to 14 days in camps each year. The N.C.C. recorded results beyond expectations, particularly following the emergencies created by foreign aggression in 1962 and 1965. Several enemy agents and spies were caught by N.C.C. cadets.

---

[48]"Education in Eighteen Years of Freedom," op. cit., p. 43.

The government of India and the state governments admired the great contribution and services of young boys and girls. These cadets not only help in national emergencies but also control traffic, provide first-aid, and serve the public in social gatherings, festivals, and fairs. The Auxiliary Cadet Corps is a similar activity, although it was organized for the junior division in 1953. But in Rajasthan, the A.C.C. was abolished in 1965 as a result of the introduction of the integrated physical education plan.

Community Service

Community service consists of literacy classes, health campaigns, sanitation work, first-aid, and social welfare programs. Assisting the community at the time of harvest and fairs, community service is a national service and every adolescent is expected to serve the community for 10 days each year. Sometimes students coming from wealthy homes, who have never done any manual work become ill because of difficult tasks and sun strokes. Despite the minor discomforts, social service camps in Rajasthan have been very successful in building roads, dams, school buildings and in providing assistance in needy rural areas.

Educational Tours

Educational tours are arranged by the majority of schools in the state, especially during the harvest holidays, in the months of October and November. These tours have both

curricular and co-curricular significance. While students visit places of historical and national importance, they also study history, geography, civics, literature, and economics. In traveling with the peer group and teachers, students develop a sense of cooperation, self-help, alertness, discipline, tolerance, and security. After their return from travel, they share their experiences with other friends and their families. In school they are asked to write essays and descriptions of the journey.

The cost of travel usually ranges from Rs. 200.00 to Rs. 250.00 which is paid by the parents, and some funds are made available from school budgets. The educational tours organized by schools are rather inexpensive, as the students get a special concession fare in railway tickets, in bus rental, and in room and board. If the school could provide more liberal grants for tours, more students would be able to participate.

Student Government

The survival of democracy is possible if understood well, practiced rightly and respected with faith, not only by adults who enjoy it, but also by the younger generation. The school is the most important of all agencies to promote democratic values and skills among its pupils through student government. "It builds a sense of responsibility in students; it provides opportunity for learning how to become self-directing; it contributes to the improvement for morale; and

it enables students to learn democratic procedures."[49] The significance of student government is that "through a student government organization the faculty can sound out the student body and get their recommendations, for the student council can be an open channel of communication between students and faculty."[50] Moreover, students' opinions and needs are heard, so that consideration can be given to them in school management.

In developing a democratic way of life and building a sense of responsibility among the students of Rajasthan, "a step taken in this regard is the introduction of the students' parliament in school under which students meet and discuss problems."[51] In schools, elections are conducted every year to elect class representatives; officers like Prime Minister, Minister of Finance, Minister of Cultural and Literary Affairs; Secretary, Treasurer; and the members of the opposition party, paralled to the national parliament on the secret ballot system. The student government executes and discharges its duties within the framework of the school constitution. Information and complaints are gathered through

---

[49]Kimball Wiles, op. cit., p. 205.

[50]William VanTill, Gordon F. Vars, and John H. Lounsbury, Modern Education for the Junior High School Years (Kansas City: The Bobbs-Merrill Company, Inc., 1967), p. 472.

[51]P. L. Shrimali, "Rajastha," in Administration of Education in India, ed. by S. N. Mukerji (Baroda: Acharya Book Depot, 1962), p. 509.

the student body and class representatives. Both government and opposition parties seek advice from their teacher sponsors and other concerned personnel.

The majority of secondary/higher secondary schools have efficient student government organizations functioning under the guidance of sponsors. The student council provides a sense of leadership, responsibility, cooperation, judgment, and training in citizenship among students.

The various co-curricular activities offered in Indian schools have improved considerably in recent years. Student government, a direct influence of American education has been introduced in India to strengthen and practice democracy.

Guidance Program

Historically, educational and vocational guidance is a new phenomenon in India and has been adopted from the United States. As a matter of fact, "the early beginning of the movement are to be found in the U.S.A. and traced back to the first decades of the century. By now beginnings have been made in many parts of the world including a few countries in Asia."[52]

The guidance program at the secondary stage is organized for helping students identify and develop their

---

[52]Khorshed A. Wadia, "Guidance Movement in India," Guidance Services Series, No. 4 (New Delhi: National Council for Educational Research and Training, 1966), 1.

abilities, interests, and needs. It should also enable them to establish goals, to understand school and community, to become informed about personal strengths and limitations, and to make a realistic choice of careers. The secondary school guidance program is well defined by Hamrin and Erickson, "Guidance in the secondary school refers to that aspect of educational program which is concerned especially with helping the pupil to become adjusted to his present situation and to plan his future in line with his interests, abilities, and social needs."[53] In short, in the absence of properly organized guidance programs, curriculum development, the scheme of diversification, and individualized instruction have very little significance. Although guidance is a continuous process, at the secondary level it is concerned with the choice of electives, selection of vocational programs, and co-curricular activities, and for better utilization of the nation's manpower resources.

In India, the guidance movement was started by Calcutta University in 1915 by setting up psychological laboratories for applied psychology and research. The University provided guidance services to students for the first time around 1939. The movement had spread to Bombay, Patna, Uttar Pradesh, Delhi, and some other large cities and states

---

[53] S. A. Hamrin, and C. E. Erickson, Guidance in the Secondary School (New York: Appleton-Century Company, 1939), pp. 1-2.

of India by 1953. Guidance has been part of the psychology departments of universities and their personnel and vocational services have been available for college students.

In 1953 the guidance movement was reorganized systematically, "when at the invitation of Dr. W. L. Barnette, Jr., an American Fulbright Professor then working at the Central Institute of Education, Delhi, a seminar for guidance workers was organized at the institute under the auspices of the Ministry of Education."[54] Since then several other seminars, workshops, and institutes have been conducted to discuss common problems and issues of guidance workers to make guidance worthwhile. The available literature on the subject is either distributed by the United States or prepared in India along the guidelines provided by American educators. The Ford Foundation has been among the leading American agencies and organizations providing guidance literature and personnel. Until 1963 more than 15 American professors of psychology and guidance had worked in 10 Indian universities in developing the programs.

The guidance services for secondary school students in India began with the establishment of a Central Bureau of Educational and Vocational Guidance at New Delhi to assist the state governments in confirming the guidance bureaus in their respective states. In August, 1958, the Bureau of

---

[54]Khorshed A. Wadia, op. cit., p. 6.

Educational and Vocational Guidance, Rajasthan, came into existence to provide guidance in three fields--educational, vocational, and personal; however, all of them are interrelated and interdependent. The Bureau introduced its first group guidance program in some high schools at Jaipur, Jodhpur, Bikaner, Udaipur, and Kota divisions in 1959. Currently the Bureau has seven major functions: (1) training guidance personnel and career-masters for the schools in the state; (2) organizing short courses on educational guidance for teachers; (3) promoting the guidance movement through publications of suitable literature for the use of pupils, parents, and teachers; (4) collection, classification, and dissemination of occupational information; (5) supervision of guidance services in the state; (6) undertaking studies in guidance; and (7) providing testing services in the schools for the selection of science courses.

The Bureau has trained full-time counselors who work at the divisional level and career-masters in multipurpose and higher secondary schools. The teacher training colleges also offer specialized studies in guidance through their regular programs for student teachers and summer institutes. The testing service of the Bureau has not been too successful as intelligence and aptitude tests are given only to those who wish to choose science subjects, and hence the rest of the students are neglected.

The youth in Rajasthan and in other states are unaware of the job situation until they complete their studies. "He finds himself lost, bewildered, when he comes out. He then, irrespective of his capacities, picks on any job suited or unsuited which comes to his lot. Failures and frustrations are thus the natural consequences."[55] To avoid such disaster the state bureau provides occupational information to students at the higher secondary level in a variety of careers like medicine, agriculture, railways, commerce, defense, and teaching. Such occupational information is unrealistic because it is of little practical use to new graduates. The educational institutions function in isolation of industrial and commercial establishments. Thus, to make vocational guidance worthwhile there should be a balance between the demand and supply in the employment market.

In evaluating the guidance program in Rajasthan, state authorities hold different opinions, but they are not enthusiastic. Mr. C. S. Mehta commented, "We should not follow anything blindly just like we have introduced guidance and counseling which is a luxury. A teacher is a guide, we do not need a separate guidance department at present."[56]

---

[55] Report on Career, Conference and Exhibition Held at Bikaner (Bikaner: The State Bureau of Educational and Vocational Guidance, Rajasthan, Government Printing Press, 1966), p. 6.

[56] Personal interview with Mr. C. S. Mehta, Senior Inspector, Department of Education, Rajasthan, Bikaner, August 7, 1970.

Mr. B. D. Tripathi believes that, "Vocational guidance is not working well because of the lack of funds and personnel."[57] The Bureau of Educational and Vocational Guidance has not been beneficial in its services to students. The testing services for the selection of science courses are furnished by guidance personnel but the majority of students choose subjects based on their parents' wishes. In the absence of corrective and adjustive phases of guidance, the testing services and occupational information are meaningless. Besides these shortcomings, follow up studies have not been conducted for the continuous evaluation of the guidance programs. Although guidance programs were applied in Rajasthan patterned after American programs to offer services to students to obtain information, testing, measurement, individual counseling, placement, and follow through, the differences in education systems and societies have contributed to its limited scope only of testing and occupational information service in India. In short, in the majority of the high schools of the U.S., the guidance program is well developed, while in Rajasthan, as well as in other states of India, it is in its infancy. The state department of education and school personnel are well aware of the shortcomings of the present guidance programs.

To secure further improvements in the state guidance programs, the Bureau will work in liaison with other

---

[57]Mr. B. D. Tripathi, personal interview.

departments and the leaders in agriculture, business, and industry. Effective guidance services will be provided in 25 per cent of the secondary schools by 1980.[58] The guidance services should be made available to each student regardless of electives. The teachers training colleges should expand their guidance programs and every teacher should have at least a basic knowledge of guidance so that individual differences among adolescents can be recognized and the collected information can be interpreted properly.

School guidance programs are an entirely American phenomenon, adopted by a majority of Indian states in the 1950's.

In summary, in the reconstruction of secondary education in Rajasthan and other states of India, ideas and practices have been adopted from the United States. The main areas which have been influenced by the United States are in the fields of educational organization, structure and curriculum by upgrading high schools to higher secondary schools through the addition of two years; the establishment of multipurpose schools parallel to the comprehensive high schools of the U.S.A.; the concept of the neighborhood school like the public schools of the United States; the improvement of inspection by introducing the concept of supervision; the training of administrators including the heads of institutions;

---

[58] "White Paper," op. cit., p. 32.

the strengthening of general education by accommodating core subjects like social studies, general science under integration of subjects, and work-experience; the individualization of instruction and recognition of the varied needs and interests of students by implementing the scheme of diversification by making curriculum revision a continuous process; and the introducing of school guidance programs. Thus the secondary education in India, including Rajasthan, has been substantially influenced by American experiences, although implementation has differed according to local, national, and social needs.

CHAPTER IV

TEACHING METHODS, EXAMINATION AND EVALUATION, AND TEACHER EDUCATION IN THE SECONDARY SCHOOLS OF INDIA AND STATE OF RAJASTHAN

"Even the best curriculum and the most perfect syllabus remain dead unless quickened into life by the right methods of teaching and right kinds of teachers."[1] Instructional materials, teaching devices, evaluation procedures, and qualified teachers are interrelated and initially responsible for quality education. The in-class experiences of students, presentation of instructional material by trained teachers, evaluation of students' progress by suitable means, and the education of teachers by a research-oriented staff are the essential ingredients of a progressive educational system. Teaching methods, examination and evaluation, and teacher education, therefore, are very important elements to consider in developing an analysis of Indian secondary education.

---

[1] "Discussion Paper on the Major Problems of Secondary Education," op. cit., p. 31.

Teaching Methods

"Quantitative progress is automatic, pressure of members is sufficient to push it up so we have done well here. But quality calls for quality thinking and quality efforts. We are perhaps bad at both, hence quality has suffered."[2] Established standards of Indian education had deteriorated as a result of compulsory education and rapid school expansion. The Overseas Hindustan Times reported, "In the post-independence drive to wipe out illiteracy and turn out qualified men to man the burgeoning economy, the emphasis on educational institutions had inevitably been on quantity rather than quality."[3] Priority was given to mass education and, consequently, efficient teaching methods, teaching devices, instructional materials, textbooks, and physical facilities were partially neglected.

The lowering of secondary level standards in the period following Indian Independence was attributed to inadequate instruction at the primary level. In Mr. Basant Kumar Das's words, "Many students in higher secondary classes did not know how to spell certain words properly. When the teachers were questioned about the low standards and large percentage of failures they attributed the reasons to the low

---

[2]T. R. Sharma, "The New Secondary School," Indian Education, VIII, No. 8 (July, 1968), 13.

[3]"Examinations: the Struggle for Survival," The Overseas Hindustan Times, XXI, No. 16 (April 18, 1970), 16.

standards of education given in primary schools."[4] Educational standards vary between rural and urban schools, and the teaching in rural areas suffers because of inadequate facilities. "A student in a town had more opportunities to learn and imbibe fresh ideas than one in a village."[5] Efforts are being made to raise educational standards at the secondary level both in rural and urban areas in India.

Techniques and Devices

Very little systematic research has been undertaken on the diffusion of classroom practices even in the educationally advanced countries and practically none in developing countries.[6] In the past two decades even educators and scholars from the United States have challenged their inadequate standards of education and have supported the improvement of instruction through experimentation and innovation. For example, team teaching, a non-graded system, flexible scheduling, student grouping, smaller class size, programmed learning, educational television, and teaching machines are some of the newer practices applied in American classrooms. It took approximately 30 to 40 years for American scholars to develop these improved teaching practices and innovations.

---

[4]"Committee 'E' on Draft Fourth Five Year Plan Synopsis of Proceedings," op. cit., p. 13.

[5]J. C. Agarwala, Recent Developments in Indian Education (New Delhi: Arya Book Depot, 1967), p. 45.

[6]"Education Commission, 1966," op. cit., p. 227.

Influenced by these practices, the emphasis in India is being placed on individual differences, smaller class size, creativity in the classroom, application of knowledge, the use of audio-visual aids, significance of motivation, and the process of relating the teaching to facilitate pupils' learning. As a result of these new approaches, standards have been improved considerably, especially in the teaching of science subjects.

The new concepts of teaching and learning for improvement of instruction are initiated among the teachers of secondary schools through the establishment of numerous projects, workshops, summer institutes, and teacher training programs. In the organization of such activities the National Council of Educational Research and Training (N.C.E.R.T.), the National Council of Science Education (N.C.S.E.), and the University Grants Commission (U.G.C.), with the help of the Indian Ministry of Education have established a number of institutions and departments. Both the N.C.E.R.T. and N.C.S.E. are continuously consulting with the United States National Science Foundation (U.S.N.S.F.), the United States Agency for International Development (U.S.A.I.D.), the Ford Foundation, and the United Nations Educational, Scientific, and Cultural Organization (U.N.E.S.C.O.). Teams of experts have been assisting Indian officials and education personnel from the different states in attempts to improve teaching methods in science, mathematics, and English at the secondary

level. The N.S.F., U.S.A.I.D., and U.N.E.S.C.O. teams are particularly engaged in the improvement of science teaching, but the Ford Foundation has undertaken the teaching of English, in addition to the science subjects.

Both the National Science Foundation and the United States Agency for International Development are engaged in various activities related to the teaching of science, such as summer science institutes and textbook review seminars, and they also provide information, data, and references in undertaking any project. "The dynamic summer science institute programme, which began in 1963, seeks to bring college and secondary school teachers of science and mathematics up to date on new methods of teaching their subjects."[7] In 1969, the government of India operated 162 summer institutes in which U.S.A.I.D. and N.S.F. provided consultation support to 100 institutes with 131 consultants.

In Rajasthan, to make the new curriculum effective in science subjects, teachers participate in training provided through summer institutes. The Chairman of the Board of Secondary Education of Rajasthan, who is very optimistic about the improvement in science teaching says, "A group of about a thousand teachers, half the number of teachers teaching classes IX-X, have received training during the summer

---

[7] Fact Sheet: United States Economic Assistance to India, June, 1951 to July, 1970, No. 21 (New Delhi: The United States Information Service, Embassy of the United States, 1970), p. 10.

vacation (May-June, 1970). The remaining teachers of secondary and higher secondary classes will be trained in 1971-72 when the new syllabus will be introduced for examination."[8] The board has received Rs. 200,000.00 from the N.C.S.E., and this grant is partially and indirectly furnished by the N.S.F. The N.S.F. has also organized summer institutes and conferences for the improvement of science education for college professors. During 1964-69 the University Grants Commission, in cooperation with the N.S.F. and U.S.A.I.D., organized 62 summer institutes for the benefit of chemistry teachers in colleges. These have been attended by nearly 2,000 college teachers of chemistry.[9] Conferences are also arranged to discuss common problems and to share the experiences of chemistry educators from both India and the United States. The Government of India has established four regional colleges of education with the collaboration of U.S.A.I.D. and U.N.E.S.C.O., one of which is at Ajmer, Rajasthan, where a special program of four years training in content-cum-pedagogy is organized for science teachers of secondary schools.[10]

---

[8]Mr. K. L. Borida, personal interview.

[9]"Indo-U.S. Bid to Boost Standards," Enlite, August 2, 1969, p. 10.

[10]U.N.I.C.E.F. Aid Project on Science Teaching at the School Stage (Faridabad: Ministry of Education, Government of India Press, 1968), p. 16.

For the improvement of English teaching at the secondary level, the Ford Foundation approved a five year grant to assist in the establishment of the Central Institute of English, which was established in November, 1958, in Hyderabad, Andhra Pradesh. As a matter of fact, the quality of English instruction and the standards of spoken and written English have deteriorated as a result of employing Hindi and other regional languages as media of instruction.[11] The Ford Foundation has provided four foreign specialists to work with the problems of English teaching, as well as books and equipment, fellowships, training seminars, and stipends for the trainees. The British Council for Education has supplied foreign consultants and the Government of India has provided funds for the Indian staff, buildings, a portion of the stipend, and operating costs. Trainees have been selected through state education departments and instruction has been given in English grammar, linguistics, spoken and written English, methods of language teaching, and literary interpretations. The Institute has also presented a series of broadcasts on English teaching and prepared tape recordings for the secondary school of Andhra Pradesh.

The existing methods of teaching include lecturing, directing, dictating, memorization, inductive and deductive reasoning, and direct and indirect methods. Little attention

---

[11]"Ford Foundation--Annual Status Sheet," op. cit., p. 83.

is given to the awakening of student curiosity, motivation, student interests and aptitudes, and judgment due to the full curriculum and the emphasis on external examinations. Teachers differ in how they go about presenting instructional material and creating the emotional and intellectual climate that promotes learning. Therefore, one method may not be suitable for application by all teachers. The questions arise as to what the better or poorer methods of teaching are and who a good teacher is. Better methods lie in the hands of adventurous teachers who explore, experiment, and practice new devices according to the needs of students and the nature of the lesson. There is no general agreement that certain methods are good or bad. "No methodology, however modern it may be, which has not been developed in terms of the particular need of school children and classroom requirement of subject teaching, will be successful."[12] Good teaching should aim at the inculcation of desirable values and proper attitudes in work habits; shifting the emphasis from verbalism and memorization to learning through purposeful, concrete, and realistic methods; providing opportunities to make practical application of self-study and initiative; teamwork; and group discussion among students. "They must be involved in the learning process, in setting goals, and in evaluating

---

[12] J. K. Shukla, "Teacher Education for Tomorrow's Needs," The Rajasthan Board Journal of Education, V, No. 3 (July-September, 1969), 39.

progress. Students should be free to interact within the classroom, which involves assuming responsibility for class assignments."[13] Both teaching techniques and the learning process are discussed by Hilda Taba under the title "Teaching Strategy" (Figure 5).[14] Inadequate teaching leads to failure and frustration, and encourages dropouts. Bir Singh[15] found in his study that nearly 67 per cent of the responsibility for failure in examinations seems attributable to the poor teaching skills of teachers, and nearly 20 per cent of the responsibility falls to teachers of mathematics. A similar situation can be observed in the teaching of science and social studies. The teacher's lack of interest in teaching, and his irresponsible conduct, can both contribute to ineffective teaching. A teacher may lose interest in teaching for a number of reasons: he may be assigned to teach subjects in which he does not have background; he may be given an improper and heavy schedule; he may not receive encouragement, credit or praise; he may be criticized by his peers and superiors.

---

[13]George Henderson and Robert F. Bibens, Teachers Should Care: Social Perspective of Teaching (New York: Harper and Row Publishers, 1970), pp. 51-52.

[14]I. J. Patel, M. B. Buch, and M. N. Palsane (eds.) Readings in Inservice Education (Vallabh Vidhyanagar: Sardar Patel University, 1969), p. 89.

[15]Bir Singh, "How Schools Cause Failure: A Study," The Rajasthan Board Journal of Education, V, No. 2 (April-June, 1969), 15.

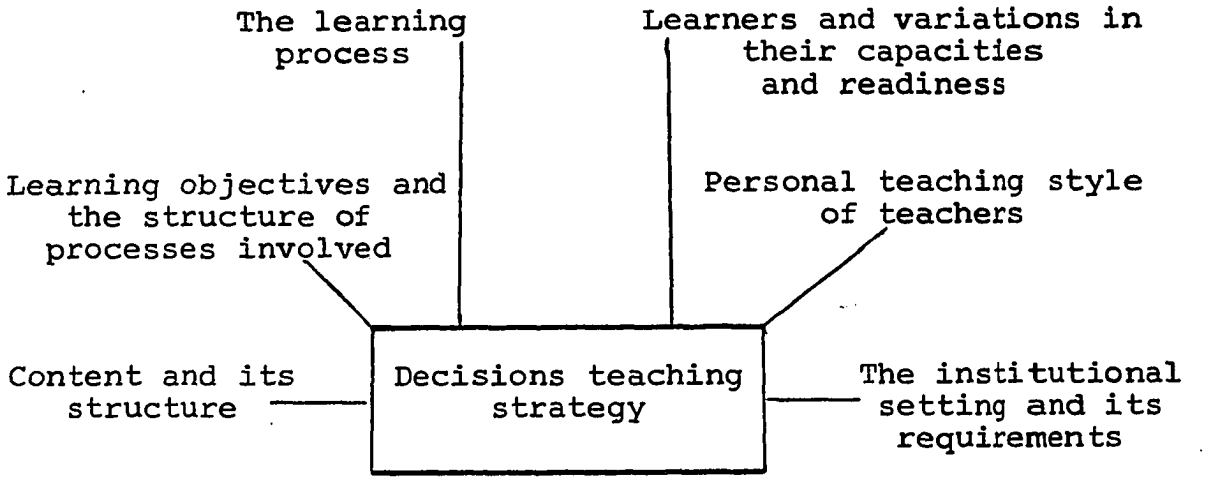


Figure 5

In Rajasthan approximately 65 per cent of the teachers are trained in regular training colleges, where they teach 40 to 45 lessons using different methodologies in teaching two school subjects during their training program. Despite the requirement of student-practice-teaching, the methods and techniques learned in the training college are often not utilized in the classroom situation. This is because a teacher has to complete the assigned course content with his classes and his teaching has to be geared towards the board examinations. A newly trained teacher, however, may attempt to implement the methods he has been taught until he loses his enthusiasm. The effort, time, and money spent during the training periods in the colleges are wasted when only the textbook, lecture, or question-answer methods are commonly practiced.

Physical Facilities

Class Size

In India classes are of a larger size than those in the United States. The teacher-pupil ratio for the country is 1:22 at the secondary and higher secondary levels, 1:25 at the middle levels, and 1:39 at the primary level, whereas in Rajasthan it is 1:18, 1:22, and 1:34 respectively. While this distribution of students per teacher varies from region to region and from rural to urban areas, the teacher-pupil ratio in Rajasthan is encouraging. Classes are rather small in rural areas compared to those in urban schools (Table 8). Also, classes for core subjects are larger than those of electives. Densely settled regions, like Kerala and West Bengal, have larger classes than the sparsely populated regions of Rajasthan and Assam. Larger classes prevent group discussion and individual attention for students. Only the lecture method, the question-answer technique, or the text-book approach can be employed when classes are too large, and in such instances experiments, projects, and library work is neglected. In spite of the fact that a large class size prevents good teaching, much depends on the individual teacher. Devoted teachers perform efficiently even in large classrooms. Indian educators know that small class size is conducive to better education. However, they have not been very success-ful in reducing class size.

TABLE 8

NUMBER AND PERCENTAGE OF DISTRIBUTION OF SECONDARY SECTIONS (IX-XI) ACCORDING TO PUPIL-TEACHER RATIO

Pupil-Teacher Ratio	Rural Areas		Urban Areas		All Areas	
	Number	Percentage	Number	Percentage	Number	Percentage
Up to 20	9,599	58.94	5,196	49.03	14,795	55.03
21-30	4,686	28.77	2,536	23.93	7,222	26.86
31-40	1,694	10.40	2,616	24.68	4,310	16.03
41-50	183	1.20	115	1.09	298	1.11
51-60	64	0.39	112	1.06	176	0.66
61-70	21	0.13	19	0.18	40	0.15
71-80	14	0.09	--	--	14	0.05
81-90	4	0.02	1	0.01	5	0.02
91-100	1	0.01	2	0.02	3	0.01
Above 100	19	0.12	1	0.01	20	0.07
Total	16,285	100.00	10,598	100.00	26,833	100.00

Source: (Compiled From) Second All-India Educational Survey. New Delhi: National Council of Educational Research and Training, 1967, p. 336.

Other Physical Facilities

School buildings, playgrounds and other physical facilities are becoming inadequate, as the student population continues to grow at an alarming rate. The state government and the local community are continuously engaged in constructing or renting school plants but it is impossible to cope with the situation, due to limited financial resources. The problem of the physical plant is acute both in rural and urban areas, although of a different nature. In rural areas buildings are either inadequately built or have a shortage of adequate space; however, the rural schools are not as crowded as those in urban areas. Urban schools are suffering drastically from population growth. In government schools, double shifts are often found, where in the morning hours one school operates and in the afternoon pupils of other schools attend classes.

In the double shift system, instruction is hampered because of lack of time. The students of higher grades suffer the most because they have to participate in the board examinations. The lack of properly equipped science laboratory is among the prime reasons for poor instruction. To overcome the problems of science teaching and inadequacy of physical plants, the government of Rajasthan proposes to give highest priority to construction of laboratory facilities and to acquiring equipment for science laboratories.

School physical plants are influenced primarily by British and Indian architecture; there is only a minimal amount of American influence.

Instructional Material

Instructional materials and teaching aids include maps, charts, models, laboratory equipment, science apparatus, films, radios, televisions, and textbooks. "Teaching through television, linguophone, and radio programs is based on the American pattern."[16] The inadequacy of instructional materials for teaching science has been alleviated to some extent with the constant assistance of U.S.A.I.D., N.S.F., N.C.E.R.T., the National Physical Laboratory, and the State Institute of Science Education, who demonstrate science apparatus locally. A traveling science workshop (T.S.W.) was introduced at the Regional College in Ajmer, to acquaint school science teachers with low cost apparatus that can be produced with indigenous materials, to present new ideas concerning classroom presentations, and to generate enthusiasm to develop and apply new approaches.[17]

The government of India is expanding facilities for the teaching of science, with the help of UNESCO and UNICEF, by developing instructional material consisting of textbooks,

---

[16]Miss S. D. David, personal interview.

[17]Project Report: Science Education Improvement Project, U.S.A.I.D. (Washington, D.C.: United States Agency for International Development, 1969), p. 18.

workbooks, laboratory manuals, and teachers' guides.[18] A mobile laboratory-cum-projection equipment unit, for experimental teaching of science, has also been provided for use in the various state education departments. It is very important that instructional material be prepared according to local school needs and that the science laboratory be equipped with necessary materials. The teaching of science has improved a great deal due to these efforts.

The Indian Radio System has been broadcasting special programs for schools for sometime. In Rajasthan, Jaipur Radio broadcasts a variety of programs for primary through higher secondary grades in all subjects. In spite of having several radio sets in each school, it is difficult to estimate how much this facility has been used. Although they are available, radio has not been used in teaching in many schools. Educational television is used only in the Delhi schools, although its programs will be expanded to other states soon.

For the production of improved instructional material, the National Institute of Audio-Visual Education has been organizing regular training programs for teachers and audio-visual personnel. The Rajasthan Audio-Visual Department, Ajmer, has a large film library equipped with films and other instructional materials, which are supplied on loan to the schools. School teachers and other interested personnel

---

[18] U.N.I.C.E.F. Aided Project on Science Teaching at School Stage," op. cit., p. 16.

receive short-course training in the operation of equipment through the audio-visual department, as well as specialized and systematic training in regular training colleges. The audio-visual department has cinema vans and a trained staff which shows relevant films both in rural and urban areas on education, social, and cultural subjects. The State Department of Education is preparing maps, charts, and other teaching aids for the schools. Nevertheless, some teachers prepare their own instructional materials, according to the nature of their lessons. The chalk-board is extensively used by every teacher, as written work is highly recognized in Indian schools.

Laboratory equipment used in the secondary schools of India is either American made or locally made with the assistance of American teachers and scientists.

Programmed Learning

With the support of U.S.A.I.D., the N.C.E.R.T. and the Indian Association for Programmed Learning, programmed learning has been introduced in the schools of Bombay and Poona area since 1969. Dr. Desmons P. Wedberg and Dr. Philip C. Lange assisted in establishing the program, as the visiting specialists. In the beginning, however, American-prepared programmed-learning was not too successful, so it was decided that, "the materials and the techniques (including their utilization) will be tested out with typical

learners and in actual classroom or school situation as a procedure for validating their effectiveness and demonstrating their use."[19] In the second phase of the project the production of programmed materials, techniques, and multimedia modes are localized. The programmed learning projects are tried out in different areas, including Udaipur, Rajasthan. Concerning the success of the science improvement and programmed learning projects, Mr. Wilbur M. Waffle says, "Both of these activities are continuing ones and only now are beginning to show trends and results."[20]

Textbooks

The subject matter approach is used in organizing the course content and syllabi, and textbooks are the prime source of knowledge and information. The production of good textbooks is an important feature in upgrading standards. Dr. Sarvpalli S. Radhakrishnan, the former President of India and an educator and philosopher, one remarked, "Bad textbooks spoil the minds of young, corrupt their tastes, and degrade their natures." In fact, most of the textbooks for school students are overloaded with facts, written in difficult

---

[19] Programmed Learning Feasibility Study: Tentative Recommendations for 2nd (project) Phase in India (Washington, D.C.: United States Agency for International Development, 1969), p. 4.

[20] Personal letter of Mr. Wilbur M. Waffle, Education Officer, Bureau for Near East and South Asia, Department of State, Agency for International Development, Washington, D.C., May 15, 1970.

language, poorly printed, and poorly illustrated. "In most school subjects there is a proliferation of low quality, substandard, and badly produced books particularly in the regional languages."[21]

There is a noticeable American impact on textbook writing for the secondary and college levels. The N.C.E.R.T. has undertaken the reprint of good American textbooks, especially for the sciences and mathematics. Such books are reprinted with the help of the Physical Sciences Study Committee, the Chemistry Education Material Study Committee, the Biology Science Curriculum Study Committee, the School Mathematics Study Group, and various other agencies produce guides, notes, and references for teachers. These books are available in libraries and also from book dealers.

Textbook production has been facilitated by the preparation of model textbooks by the N.C.E.R.T. These model textbooks are being sent to all Indian states for adoption and adaptation, and for translation into the regional languages. Educators feel that this scheme has several dangers. In India there are fourteen official languages, and it is difficult to find persons who are familiar with even two regional languages. "The books will become outdated by the time the translations were out."[22] Another danger is that

---

[21] "The Education Commission Report, 1966," op. cit., p. 229.

[22] "Committee 'E' on Draft Fourth Five Year Plan," op. cit., p. 38.

good books from Western countries, especially for the fields of science and technology, are written in English and not in the regional languages. India does not have good translators who can efficiently and quickly do the work. In Osmania University an attempt was made to translate books from English to regional languages and the experiment was a failure.

The model textbooks written by the N.C.E.R.T. are facing criticism from both teachers and readers. They are accusing the N.C.E.R.T. of misleading, misinforming, and spreading misconceptions about the states. One example of such complaint is that the books give the impression "all 20 million inhabitants of the country's southwestern state (Kerala) live off, and presumably on, sea food."[23] Some educators say that these books are used by young minds and cause religious and regional prejudices. Critics of the model textbooks believe that "many of the textbooks put out by N.C.E.R.T. as original turned out to be nothing but shoddy translations of British, Russian, and American works."[24]

Textbooks for the primary and middle schools are being written by experienced teachers, university professors, educators from training colleges, and reputed authors in Rajasthan. The project is managed by the State Nationalized Board of Textbooks. For specialized subjects, the list of

---

[23]"Integration Through Textbooks," The Overseas Hindustan Times, XXI, No. 20 (May 16, 1970), 11.

[24]Ibid.

books is made available to the schools, and the subject teachers in each school select their own books. Currently, publishers are invited to submit their published textbooks and a list is selected after being subjected to review by experts, and later by a committee on courses. The review committee consists of subject senior teachers, headmasters, college lecturers and principals, training college lecturers and principals, and board personnel. Eventually, the board will have its own books, prepared by a panel of selected authors.[25] This is a bold step taken by the board and Rajasthan can avoid the dangers of translations, outdated knowledge, misconceptions, and prejudices, by having books prepared in the state. Textbook writing, especially in science subjects, has been affected by American textbooks.

Homework

Homework is assigned at all school stages, from the primary to the higher secondary grades, and students are expected to complete it regularly. Some teachers assign homework to develop the intellect, initiative, imagination, and interest of the student in school work, whereas others assign lessons for drill or only for the sake of giving homework. Similarly, some teachers make it stimulating, challenging, and interesting for students, while others prescribe it in a routine, uninteresting and stereotyped manner.

---

[25]Mr. K. L. Bordia, personal interview.

Whatever may be the case, homework is necessary in Indian schools, "moreover the syllabus for different classes in different subjects is so heavy that it will be impossible to cover it without the aid of homework."[26] The most impressive homework appears to be assigned in public schools where each pupil is given individual attention. The Principal of Mayo College in Ajmer, proudly disclosed that homework was done by his ninth graders and stated, "We assign projects of a different nature to each individual student. Our students like challenging work and put forth great effort in completing it."[27]

One educationist has remarked indignantly, "Any teacher who assigns homework as a disciplinary measure, exacting quantities of drill and meaningless busy work perpetrates an outrage on the teaching profession."[28] Thus, homework should encourage students to develop improved self-study habits and to utilize their spare time, either mentally or manually for enjoyment or learning. Homework should consist of a variety of materials and activities, including writing, reading, research, hobbies, reports, and surveys, related to the student's intellectual, physical, and emotional capacity, and home situation.

---

[26]S. K. Kochhar, Secondary School Administration (Delhi: University Publishers, 1964), p. 212.

[27]Mr. S. R. Das, personal interview.

[28]S. K. Kochhar, op. cit., p. 213.

Teacher-Pupil Relationship

The emotional environment of the classroom and the teacher's attitude towards students, have a great impact on teaching methods. Secondary school students in their adolescent years view the teacher as a model. Thus, the teacher plays an important role in establishing the tone for students to learn adequately. In a heterogenous classroom, students of various social, cultural, and economic backgrounds and intellectual levels study together. To individualize instruction, the teacher must recognize individual differences and use various teaching techniques. The Education Commission stated that "in a social and educational setup like ours where the relationship between the teacher and the taught is still largely authoritarian, the general tendency is to suppress any urges and interests that deviate from class norms."[29] A great deal of fear is likely to be found among students. A teacher should create an atmosphere in the classroom, wherein every student, regardless of his class, creed, or mental potential feels welcome, respected, and accepted. Praise and recognition should be the two key factors of improving the learning situation. "A secondary school teacher, while working as an inspired artist and sculptor, must, therefore, harness all those devices and media

---

[29] "The Education Commission Report, 1966," op. cit., p. 241.

of teaching which will help him in drawing out the best in the child's body, mind and spirit.[30] It is rather necessary for teachers to grow academically and professionally. Fortunately, a great deal of literature on human relations, classroom behaviors, and effective teaching from the United States is available in India. Recently, this material has been well utilized by Indian secondary school teachers.

Administrators need to play a more active role in improving teaching methods, by providing ample instructional and audio-visual materials, improved physical conditions, and elasticity in the school system. Moreover, the Department of Education should encourage teachers to introduce new techniques and styles in teaching their lessons by acquainting teachers with research results and innovations in the fields of education. "But it must be done with sensitivity and moderation, or the teachers will come to regard the new methods as the Department's latest fad, and may try to apply them with or without understanding, to the detriment of the normal work."[31] New teaching devices should be introduced by involving teachers in planning and programming. There should be faculty forums where teachers may exchange their views, compare notes, and come to conclusions with some consensus.

---

[30] S. S. Dixit, "Planning for Instructional Improvement," Naya Shikshak, XI, No. 2 (October-December, 1968), 124.

[31] "The Education Commission Report, 1966," op. cit., p. 228.

Faculty forums would lead to a clearer understanding of recent practices in curriculum study and classroom procedures. The head of an institution should encourage teachers to visit other teachers of an institution for the improvement of teaching methods. While discussing the problems of education, Mr. Kashyap explained that a good teacher is an asset to the educational system of the country. A good teacher will always be able to communicate with his students. We need professional teachers who can devote their lives to building a future generation.[32] Teachers should also be advised to write books and articles in professional journals, and to share their experiences with their colleagues.

Fortunately, the teachers of Rajasthan have "shown a good record of academic and professional competence and this is one of the main reasons why the standards of education in Rajasthan are comparatively satisfactory."[33] The government of Rajasthan is giving high priorities to supplying teaching aids, equipment, and other instructional material. Subject teachers are being trained in using new devices and techniques, through summer institutes, workshops, and short courses. This program of presentation for teachers in the science fields and general science has been expanded

---

[32]Personal interview with Mr. M. L. Kashyap, Deputy Adviser, Government of India, New Delhi, August 17, 1970.

[33]"White Paper," op. cit., p. 3.

with the help of the Regional College of Education in Ajmer, Rajasthan.

The Department of Education publishes two journals, "Shivira"[34] and "Naya Shikshak" (Teacher Today), besides other publications to which teachers and administrators contribute by writing articles, essays, research studies, and reports. The Board of Secondary Education also publishes a journal, "The Rajasthan Board Journal of Education," in which articles pertaining to innovations, teaching devices, curriculum studies, evaluation practices, and problems and issues in education are requested from educators and teachers. Extension departments and extension units are established to assist teachers to grow professionally.

The teaching of science and mathematics in Indian secondary schools has improved as a result of advanced methods and media developed in the United States. The teaching of English has been influenced by both British and American efforts. Other subjects have not been affects.

Examination and Evaluation

Examinations have been criticized all over the world in the past few decades. Bannett calls the examination the "devil's own device for leading pupils into temptations."[35]

---

[34]Shivira denotes to Shiksha Vibhag Rajasthan, i.e., Department of Education. Shivira is a journal published by the Department of Education, Rajasthan, Bikaner.

[35]H. E. Bannett, School Efficiency (Boston: Ginn and Company, 1925), p. 141.

While abolishing the examination system altogether, an Australian headmaster explained that examinations "have proved to be inaccurate, wasteful, and an unnecessary clumsy method of trying to find out what teachers already know about their pupils."[36] The Indian examination system has received a considerable amount of professional attention from educators, both at home and abroad. As indicated in Chapter II, the examination system has been Britain's one distinctive gift to Indian education. Nevertheless, it has been criticized by the Indian University Commission (1902). The commission remarked, "The greatest evil from which education in India is suffering is that teaching is subordinated to examination and not examination to teaching."[37] It should only be a tool for improvement of instruction and curriculum rather than master.

In the post-independence period, an urgent need has been recognized to modify the existing system. In making changes, ideas were mainly drawn from the practices of the United States, including the scheme of internal assessment, objective based teaching, and objective tests. The concept of examination has been replaced by the movement of evaluation, which was originated in the United States by the

---

[36] "Examination: the Struggle for Survival," op. cit., p. 16.

[37] S. N. Mukerji, Secondary School Administration (Baroda: Acharya Book Depot, 1963), p. 189.

Progressive Education Association and completed by R. W. Tylor. By introducing these new concepts and practices, the scheme of examination and evaluation has become rather comprehensive, with a combination of American and Indian experiences.

The Examination System

The responsibility of conducting examinations lies in the hands of the school itself, and the State Board of Secondary Education. The school examinations are labeled as local, and the board's are called external or public examinations. In local examinations, the subject teachers select the questions from the required content taught as well as examine the answer books and prepare the final results. But the paper setting and grading in the board examination is done by the external examiners, appointed by the board, and is kept secret. The board examination results eventually are published in the newspapers.

The number of examinations, their requirements and techniques of evaluation, vary from one board to another. Similarly, the name of the class after which the examination is held also differs in each state and union territory (Table 9). For example, Himachal Pradesh directs three examinations at the secondary stage, after grades VIII, X, and XI, whereas, two examinations are conducted by the Board of Secondary Education, Rajasthan. Secondary school examinations are conducted at the end of grade X, and higher-secondary examinations are given at the end of grade XI.

The Board of Secondary Education in Rajasthan is a statutory and autonomous body, which was established in 1957. In Rajasthan there has been an integrated course of studies in the secondary and higher-secondary schools, since the examinations of 1965; the students of both secondary and higher-secondary schools have common courses up to grade X. The study of core subjects like elementary mathematics, social studies, general science, third language, and crafts is discontinued after the secondary school examination, and three electives, Hindi (mother tongue) and English (foreign language) are continued to the end of the higher-secondary examinations. A student is required to pass all the subjects except crafts.

TABLE 9

EXAMINATION SYSTEM IN DIFFERENT STATES

State Territory	Name of the final class at the end of which public examination is administered	Name of the Public Examination
Andhra Pardesh	Class VIII	Ele. School Leaving Certif.
	Class XI	Sec. School Leaving Certif.
	Class XII	Hr. Sec. and Multipurpose School Leaving Certif.
Assam	Class VI	Middle School Scholarship Exam.
	Class X	Matriculation Exam.
Bihar	Class XI	Sec. School Leaving Certif.
	Class XII	Hr. Sec. School Leaving Certif.

TABLE 9--(Continued)

State Territory	Name of the final class at the end of which public examination is administered	Name of the Public Examination
Gujarat	Class VII Class XI	Primary School Certif. Sec. School Certif.
Jammu & Kashmir	Class VIII Class XI	Middle School Certif. Matriculation Exam.
Kerala	Standard X	Sec. School Leaving Certif.
Madhya Pradesh	Class VIII Class XI	Middle School Certif. Hr. Sec. School Certif.
Madras	Class VIII Standard XI	Ele. School Leaving Certif. Sec. School Leaving Certif.
Maharashtra-		
Erstwhile Bombay	Class VII Class XI	Primary School Certif. Sec. School Certif.
Erstwhile Madhya Pradesh	Class X Class XI	Sec. School Certif. Hr. Sec. School Certif.
Erstwhile Hyderabad	Class X Class XI	Sec. School Certif. Hr. Sec. Certif. Exam.
Mysore-		
Erstwhile Mysore State	Standard X	Sec. School Leaving Certif.
Erstwhile Bombay State	Class VII Class XI	Primary School Certif. Sec. School Certif.
Erstwhile Madras State	Standard VIII	Ele. School Leaving Certif.
Erstwhile Hyderabad State	Class X	Sec. School Certif.
Erstwhile Coorg State	Form III Form VI	Common Entrance Exam. Sec. School Leaving Certif.
Orissa	Class VII Class XII	Middle School Certif. Exam. Hr. Sec. School Certif.
Punjab	Class X Class XI	Sec. School Exam. Hr. Sec. School Exam.
Rajasthan	Class X Class XI	Sec. School Exam. Hr. Sec. School Exam.

TABLE 9--(Continued)

State Territory	Name of the final class at the end of which public examination is administered	Name of the Public Examination
Uttar Pradesh	Class VIII	Jr. High School Certif.
	Class X	High School Certif. and High School Tech. Certif.
West Bengal	Class VI	Central Exam. for Girls and Middle Scholarship Exam. for Boys
	Class X	High School Certif.
	Class XI	Hr. Sec. School Certif.
A. & N. Islands	Class XI	Hr. Sec. School Certif.
Dadar & Nagar Haveli	Class VII	Primary School Certif.
	Class XI	Sec. School Certif.
Delhi	Class XI	Hr. Sec. School Certif.
Goa, Daman & Diu	Class XI	Sec. School Certif.
Himachal Pradesh	Class VIII	Middle School Certif.
	Class X	Matriculation Exam.
	Class XI	Hr. Sec. Certif.
L. M. & A. Islands	Class X	Sec. School Leaving Certif.
Manipur	Class VIII	Middle School Certif.
	Class XI	Hr. Sec. Certif.
Nagaland	Class VI	Middle School Leaving Certif.
	Class X	Matriculation Exam.
N.E.F.A.	Class VI	Middle School Leaving Certif.
	Class X	Matriculation Exam.
Pondicherry	7th Standard	Primary School Leaving Certif.
	3eme annee x-Tamil School.	Sec. School Leaving Certif.
	Class 3eme (French School)	Sec. School Leaving Certif.
	Form VI (English School)	Sec. School Leaving Certif.
Tripure	Class VI	Middle Scholarship Exam.
	Class X	High School Certif.
	Class XI	Hr. Sec. School Certif.

Besides directing the examinations, the Board of Secondary Education prescribes courses of instruction and textbooks for secondary schools, recognizes institutions for examinations, takes necessary steps to raise standards of education, advices the Department of Education and adopts measures to promote the physical, moral, cultural, and social welfare of the students of Rajasthan. The appointment of question paper-setters and examiners is also under the jurisdiction of the board. Under the comprehensive scheme of examination, the board is engaged in three additional programs to bring efficiency to the examination system: (1) the training of paper-setters, (2) the orientation of teachers for objective based teaching and evaluation, and (3) the preparation and distribution of examination and evaluation material.

Weaknesses of the Examination System

Traditionally, the local examinations are held at the end of the school year and the board examinations in the month of March and April. Grades are established on the marks earned by the candidates in the final examination, and each student is classified as passed or failed. In the United States a student repeats only those courses which he has failed, but in India a student failing in one or two subjects, repeats the grade by studying all the subjects again. In case of failure only in one subject, a student is given another

chance, at a later date, to participate a second time in the examination. This is called supplementary examination. Unfortunately, a very small percentage of students pass in these supplementary examinations. The results of these examinations are announced in the month of August and sometimes students miss the opportunity of getting admitted into any college or training program. As a matter of fact, passing through a supplementary examination reflects the poor performance of the student in a particular subject and, therefore, it is possible that he will not be accepted for higher studies. Thus, the single board examination, and the repeating of grades, are major defects of the Indian examination system.

The examinations contain mostly essay type questions, demanding lengthy answers, in which a large portion of the syllabus is left uncovered. This leads to guessing on unexpected questions. The study of "guess papers and solved questions," therefore, becomes significant, and the study of textbooks and other supplementary instructional material is neglected. The guess papers and examination guides are readily available at low cost to students in the market. Since the number of essay questions to be selected from a certain content being limited, they soon become mere stereotypes. Questions are very often repeated from the question papers of earlier years. Students, therefore, try to guess what has or has not been asked for the last few years.

The questions are often vaguely worded and lead to confusion among both students and examiners. Students are unnecessarily confused about what it expected to be the correct answer. The examiners themselves are not clear about the quality and nature of the answer required of the pupils because those who select the questions are not the same individuals who conduct the examinations. Marks allotted by one, therefore, are likely to differ from what another may give for a similar answer. Obviously, equal marking and justice cannot be given to all students under these circumstances. Generally, an option is provided stating that (1) all questions carry equal weight, (2) attempt any five or six questions, and (3) the student may answer questions through attractive illustrations. This again gives students freedom to prepare selected important topics and leave out the rest, without realizing their importance. Unfortunately, some students who studied the right topics get average to above average marks, while others, studying extensively, do poorly in the examination. The board results surprise some of the subject teachers when their poor students do very well and the better students fail. Quite commonly, an examiner would be allotted between 300 to 400 answer-scripts and he would be required to complete his job in about a month's time. With his own teaching and other duties to be simultaneously looked after, he can hardly be expected to do full justice

to this job."[38]

Mr. Prem Kirpal, former educational Advisor, government of India, says that the "examinations dictated the curriculum instead of following it, prevented any experimentation, hampered proper treatment of subjects and the adoption of sound methods of teaching and only developed lopsided values in education."[39] Teaching becomes a mechanical process, consisting of telling, dictating or informing the students, because textbooks and the prescribed course content have to be covered to pass the examination. This leads to memorization rather than real learning. There is always a rush among teachers of secondary/higher-secondary school and students to master the subject matter. The system also prevents the development of good study habits and regularity in studies. The majority of Indian students study very hard in revising the course work or guides or cheap notes, a few months before the examinations. Because of this irregularity in study habits, many students do not perform well in the examinations.

The external examination causes much physical, mental, and emotional stress for students. There is always a great fear of the examination and its results. Students worry about

---

[38]Atindra Mohan Goon, "Changing Our Examination System," Now, October 17, 1969, p. 43.

[39]Prem Kirpal, op. cit., p. 69.

their division[40] and percentage of marks until the results are declared. Inevitably some good students perform poorly because of fear and tension. Professor Aiya, while discussing the examination system, said, "the nightmare of examination must be removed from the minds of our students."[41] There is no relaxation among students who have appeared in some examination from March to June of every year. Failure in the examination creates fear, frustration, and anxiety among students, teachers, and parents.

The Indian education system faces a serious problem of wastage and stagnation caused by its examination system. When a student fails the grade and is withdrawn from the school, this is called wastage and when he spends more than a year in one grade, this is called stagnation. The Education Commission describes that "wastage and stagnation, like headache and fever, are not diseases in themselves: they are really symptoms of other diseases in the educational system, the chief among which are the lack of proper articulation between education and life and the poor capacity of the

---

[40]Divisions are given to students based on the grand total of marks obtained in all subjects. A total of 36%, III; 48%, II; 60%, I; and 75% distinction is awarded. The practice of giving division vary from state to state and from one year to another. It changes with the policy of the board.

[41]Personal interview with Professor V. Aiya, Director, National Council of Educational Research and Training, New Delhi, July 17, 1970.

schools to attract and hold students."[42] The problem of dropouts and repeating of grades is a social and psychological one. It discourages pupils, parents, and teachers, and this is a staggering loss of labour, money, and time."[43] Sometimes 75 per cent of the students fail in one or more subjects (Tables 10 and 11). The percentage of failure varies from one state to another and from one year to another.

The high percentage of failure is caused by several factors, such as the socio-economic background of the students, poor teaching methods, and overcrowded classrooms. S. B. Kakkar conducted a study in Jullundur District of Punjab pertaining to the examination results of 1961, 1962, and 1963. The causes revealed were: a paucity of qualified staff to teach the electives, inadequate equipment for teaching science and technical groups, wrong selection of elective groups, poor standards of teaching the newly introduced subjects, students' poor level of achievement in English, science and mathematics, and filure to attend to individual difficulties in over-crowded classrooms.[44] The research conducted by Bir Singh explained that, "nearly 67 per cent responsibility seems to lie on the poor teaching skills of

---

[42]"The Education Commission Report, 1966," op. cit., p. 161.

[43]"Failure Means National Wastage," Enlite, August 31, 1968, p. 11.

[44]S. B. Kakkar, "Mass Failure at Higher Secondary Level," Educational Review, LXXV, No. 9 (September, 1969), 210.

TABLE 10

NUMBER OF STUDENTS FROM THE GOVERNMENT AND PRIVATE SCHOOLS IN HIGHER SECONDARY AND SECONDARY SCHOOL EXAMINATIONS OF THE RAJASTHAN BOARD IN 1970

Name of the Examination	No. of students appeared		Boys			Girls			Passed Candidates		Failed Candidates	
	Govt. schools	Private schools	Appeared	Passed	Per-centage of pass	Appeared	Passed	Per-centage of pass	Govt. schools	Private schools	Govt. schools	Private schools
Secondary X	72,423	5,334	67,952	33,157	53.1%	9,805	5,210	55.3%	35,434	2,933	3,698	2,401
Higher Secondary XI	24,460	5,933	25,958	15,881	61.1%	4,435	3,039	68.5%	14,872	4,048	9,588	1,885

TABLE 11

NUMBER OF STUDENTS IN SUBJECT GROUPS IN THE HIGHER-SECONDARY AND SECONDARY SCHOOL EXAMINATIONS OF 1970

	Group	Higher Secondary Examination XI	Secondary School Examination X
I.	Science Group		
	(i) Science-Mathematics	8,253	16,023
	(ii) Science-Biology	8,392	15,468
II.	Agriculture Group	384	--
III.	Commerce Group	4,781	14,467
IV.	Home Science Group	187	81
V.	Fine Arts Group	35	4
VI.	Humanities Group	14,550	54,788
	Total	365,582	100,831

Notes: 1) Taking of examination in Social Studies, General Science, and Elementary Mathematics at secondary levels started since 1965.

2) Crafts is not compulsory at secondary examinations.

teachers."[45] Some other research conducted on failure and wastage have shown that "about 65 per cent of the educational wastage is due to socio-economic factors and 30 per cent due to educational factors."[46]

Generally, students coming from low income homes and low caste families have poor standards of achievement, which contributes to the high percentage of failures. Similarly, schools in rural areas have a higher percentage of failure than do urban schools. It is likely that village students spend much time in assisting their parents in farm work and thus neglect their studies. Also, such students lack a proper environment for studying and guidance at home. A desperate need has been felt to make a bold change in the examination system. Dr. K. G. Saiyidain in April, 1965, while inaugurating the Conference of the Chairmen and Secretaries of the Boards of Education, remarked, "There was not enough realization of the desperate sense of urgency and that there could be no improvement in the general standard of education unless the examination system was changed."[47]

To alleviate the shortcomings of the existing system of examinations, the Secondary Education Commission made a

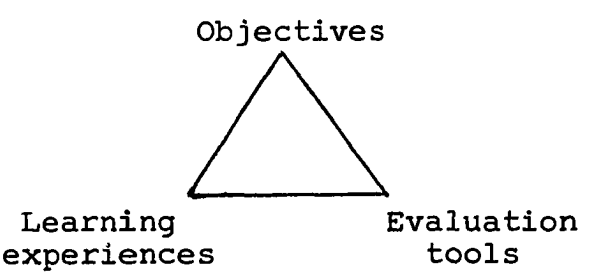
---

[45] Bir Singh, op. cit., p. 5.

[46] C. L. Sapra, "Reduce Wastage and Stagnation," Naya Shikshak, XI, No. 2 (October-December, 1968), 9.

[47] K. G. Saiyidain, "Times of India, April 5, 1957," in Secondary School Administration by S. N. Mukerji (Baroda: Acharya Book Depot, 1963), p. 190.

number of concrete recommendations regarding the external and internal examination proceedings. Based on these recommendations and suggestions by prominent educationists, the Ministry of Education in 1958 invited Dr. Benjamin S. Bloom of the University of Chicago, a reputed authority on testing and evaluation, to advise them on the matter. He said that "the system consisting of examination, syllabi, teaching methods, and instruction materials has formed a grand conspiracy to persuade everyone involved in it that learning is to be equated with rote memorization."[48] While explaining the concept of evaluation to Indian authorities, he stated that, "there is an interrelatedness between objectives (ends), learning experiences (means), and evaluation (evidence).[49] To illustrate this, he used a diagram, well known as Bloom's triangle. In the process of evaluation, the objectives



remain central to both learning experiences and evaluation. Educational objectives are determined by the needs of the

---

[48]Benjamin S. Bloom, Evaluation in Secondary Schools (Chicago: University of Chicago Press, 1951), p. 3.

[49]The Concept of Evaluation in Education (New Delhi: Director of Extension Programme for Secondary Education, National Council for Educational Research and Training, 1963), p. 12.

learner, the demands of society and psychology of learning. Similarly, evaluation and learning experiences come at the planning stage.

The Ministry of Education, on the advice of Dr. Bloom, proposed a ten year phased program of examination reform, which was unanimously accepted by state boards of education in September, 1958. The State Unit in Rajasthan was established in the year 1963-64, with headquarters at Bikaner, but it has been shifted to Ajmer to the State Board of Secondary Education. The main functions of this unit are to study the present examination system and suggest suitable reforms.

Since the establishment of the Central Examination Unit, it has achieved tremendous success due to a close co-operation in working with several thousands of secondary school teachers, and teachers training college lecturers. The board personnel took an active part in orienting them to new concepts and techniques of evaluation. Several workshops, seminars, and courses are being conducted to implement the new scheme adequately. In addition to organizing workshops and seminars, essential literature on evaluation is disseminated, so that concerned personnel can gain insight into accomplishing the established purposes. The unit has produced publications on the subject and distributed them in all states and union territories.

The entire concept of evaluation is American and has been developed in India by the expert advice of Dr. Bloom since 1958.

New Type of Questions

Besides the training of personnel, the Central Unit has prepared sample question papers, diagnostic tests, and unit tests which are circulated in the schools. In the beginning, new types of test items were prepared in the core subjects and a few electives such as history, geography, civics, economics, advanced mathematics, and science subjects. The Board of Secondary Education in Rajasthan, in collaboration with the Department of Textbooks of the National Institute of Education Research and Training, New Delhi, has organized workshops for paper-setters in the techniques of developing improved question papers, test items for classroom use, and sample question papers for the secondary school examinations. Improved types of question papers are being introduced in all subjects according to a phased program. All subjects have been covered by the secondary/higher-secondary examinations of 1970.

The comprehensive scheme of assessment in the state includes four types of questions: the objective type questions (multiple choice, true and false, completion, and matching), very short answer questions, short answer questions, and essay questions. The questions cover a maximum variety

of objectives, depending upon the nature of the subject matter, including the acquisition of knowledge, and the development of understanding and application of knowledge. This reform of question papers is expected to have a three-fold beneficial influence. It is assumed that this will bring about a desirable change in the study habits of pupils and in the methods, techniques of teaching adopted by teachers, and it will, hopefully, raise the standard of education in general.

Internal Assessment

The scheme of internal assessment was introduced by several state boards of secondary education as a part of examination reform. Prior to the concept of internal assessment the high/higher-secondary examinations were conducted solely by the states board of education. These external examinations are still the deciding factor for the students. The answer books of students are sent to subject teachers and college lecturers in different parts of the state. Obviously, the examiners are not familiar with the past performance, emotional state, home and social background and needs of the students, since they do not have the student's name, or the name of his school. Most educators believe that teachers who are acquainted with the students should have some weight in assisting their progress. Consequently, to make the examination more effective, internal assessment was

introduced, although it is administered differently in each state.

The system of internal assessment was initiated in Rajasthan by the Board of Secondary Education in July, 1962. It was confined to the assessment of pupil's growth in the scholastic areas. The weightage of 20 per cent marks on the internal assessment was suggested by the Bhopal (Madhya Pradesh) seminar on examination. Nevertheless, different states allot different marks to the scheme. For example, the state of Madhya Pradesh only requires 25 per cent at the level of the board examination. A two year (1965-67) experimental project on a new technique for internal assessment was taken up by the Board of Secondary Education, Rajasthan, with the collaboration of the Department of Curriculum and Evaluation, N.C.E.R.T., and several changes were initiated in the scheme.

The scheme of internal assessment and the objective type of tests is facing criticism from boards of secondary education, administrators, and teachers. The Bihar Board of Education has abolished the scheme, by saying that it has led to many abuses. The Vidharbha Board found "no correlation between the internal assessment and the external assessment, particularly in the case of students' who were in categories below the average."[50] The assessment, in respect to

---

[50]"Discussion Paper on the Major Problems of Secondary Education," op. cit., p. 35.

classwork, homework, and co-curricular activities, was chiefly based on the general opinion of the subject teachers rather than on any class record. In Rajasthan, the scheme was a failure too, due to the lack of interrelatedness between the techniques used for internal and external assessment. The editorial of the Rajasthan Board Journal of Education points out two major reasons pertaining to the failure of internal assessment. First, it is thought to be new in idea and complex in procedure and, secondly, not all the teachers and administrative officers have been adequately oriented to the new concepts and procedures involved.[51] On the other hand, R. S. Gupta believes that "introduction of internal assessment is correct to some extent, but mixing the systems' internal and external examination is not right."[52] He further states that "apart from annual examination we should give great importance to the evaluation of day to day work."[53]

Some authorities in Rajasthan are of the opinion that internal assessment done by teachers and the results of the board examination should be retained, "although we have not

---

[51]"Editorial," The Rajasthan Board Journal of Education, V, No. 2 (April-June, 1969), 1 and 2.

[52]Personal interview with Mr. R. S. Gupta, Deputy Director of Planning and Statistics, the Directorate of Primary and Secondary Education, Rajasthan, Bikaner, August 6, 1970.

[53]Ibid.

been able to implement the scheme properly, but certainly we should have teacher evaluation as well as board examinations."[54] The Inspector of Schools of Ajmer also believes that public examination conducted by the board and internal assessment should be continued.[55] Among other heads of institutions, Miss S. D. David strongly opposes the internal assessment scheme. She said, "Teacher assessment may be very good but I don't think it will work under the present circumstances. There should be board examinations. We cannot trust home examinations."[56]

The majority of educators in Rajasthan favor the board examination; however, they also recommend teacher evaluation. Many are still dissatisfied with the existing system of internal assessment and examination. As Mr. S. R. Das commented, "I would like to get away from the emphasis on examinations. All teaching is geared to get the highest possible marks. Because of the examination, all time is spent in rote learning rather than real learning."[57] Dr. R. C. Das goes one step further and comments that, "real assessment should not be based on one single board examination; however, there should be an external agency to check the students'

---

[54]Anil Bordia, personal interview.

[55]Personal interview with Mr. Bharat Bhusan Gupta, Inspector of Schools, Ajmer district, Ajmer, August 4, 1970.

[56]Miss S. D. David, personal interview.

[57]Mr. S. R. Das, personal interview.

performance and record."[58] In spite of the experiences and opinions of teachers and administrators, both internal assessment and board examinations are likely to remain in Rajasthan in some form. Rajasthan has reformulated the scheme of internal assessment and the improved system was introduced among the schools of Rajasthan in July, 1967. Its main features are as follows: (1) internal assessment has been extended to the non-scholastic aspects of pupils' growth; (2) the practice of adding marks obtained by a pupil in internal assessment to those awarded at the board's examination shall be discontinued from the year 1969 at the secondary/higher-secondary school examination; and (3) the schools will issue a certificate for internal assessment under the seal of the board from the year 1969.[59] The certificate will be issued based on the cumulative record kept in schools covering information regarding the student's personal and family background; attendance, growth and development in physical health, intelligence, scholastic achievement, personal and social qualities; interests and attitudes; and participation in co-curricular activities.

---

[58]Personal interview with Dr. R. C. Das, Principal, Regional College of Education, Ajmer, July 17, 1970.

[59]"Scheme of Comprehensive Internation Assessment," The Board of Secondary Education Rajasthan, Mimeograph (New Delhi: Department of Curriculum and Evaluation, N.C.E.R.T., 1968), p. 1.

The scheme of internal assessment is widely popular in American education, and has been adopted by majority of Indian states to improve the existing examination system since 1958.

Objective tests are not popular among the teachers and administrators of Rajasthan. "So far we have not been able to use it properly because the framing of questions is a big task. Unless the teachers are prepared and teaching methods are changed it is not good. I am of the opinion that essay type tests should continue but it should be comprised of the short answer type questions."[60] Among other heads of institutions and teachers, the headmistress of the Mission Girls Secondary School criticized the new test items. "Multiple choice questions do not give the student a chance to express his language ability, and organization of thoughts."[61] The writer discussed the matter with administrators, groups of teachers of different schools, and students, but not a single individual favored objective tests. This is probably because of the orientation of students and teachers toward essay questions and the heavy emphasis on written work and subjectivity in teaching.

It is premature to assume the success of the new type of tests, but in Rajasthan the improved type of question papers are being introduced in all subjects which were covered

---

[60]Mr. C. S. Mehta, personal interview.

[61]Miss S. D. David, personal interview.

by the examinations of 1970. The board has developed a new pattern of practical examinations in physics, chemistry, and biology for both secondary and higher-secondary examinations of 1968 and 1969. The examiners are being trained by holding four day workshops in each subject. The details of the new pattern have been made available to all the schools. "The Board has introduced oral examination in English at the Secondary School Examination with effect from 1968 and will introduce it in Hindi from the examination of 1969."[62] A brochure containing detailed instructions regarding the conduct of oral examinations and illustrative questions in both subjects have been sent to the schools. The scheme of oral examinations may be very beneficial for the students of Rajasthan, since it will give them practice in oral expression.

While evaluating the new revised examination system, the Academic Officer of the Board of Secondary Education, Rajasthan, proudly remarked, "Written examinations are objectively based, well planned, and balanced, and a much greater part of the syllabus is now covered in these examinations."[63] The new improved examination system of the Seventies which

---

[62] Report on the Work Done in the Field of Examination and other Reforms (Ajmer: The Board of Secondary Education, Rajasthan, 1968), p. 5.

[63] Personal interview with Mr. K. C. Jain, Academic Officer, The Board of Secondary Education, Rajasthan, Ajmer, August 19, 1970.

has been taken from the educational system of the United States is rather comprehensive, aimed at helping students to improve their levels of achievements, develop healthy attitudes and varied interests, attain emotional praise, achieve better reliability and validity of examinations, reduce wastage and stagnation, and lead to objective based teaching.

Teacher Education

"Qualitative improvement in education, whether we look upon it as a matter of better textbooks, improved teaching methods, or examination reforms, depends to some extent on additional resources properly employed, but to a larger extent on the ability and sincerity of teachers,"[64] says Dr. Gadgil. A sound teacher education program for secondary schools is essential for the improvement of instruction. Such a program should include the academic and professional preparation of teachers, extension services, inservice education, and qualified administrators and teacher educators.

Teacher education has been neglected all over the world. In India the quality of training institutions, for both the primary and secondary schools have deteriorated in the post-independence period. The reason for the decline in the quality of teacher education institutions is the mass

---

[64] D. R. Gadgil, From the Address to the Conference of Education Secretaries of States and Union Territories, New Delhi, March 16-18, 1968.

production of teachers to meet the demand of the rapidly growing school population. One of the resolutions adopted at the 1961 Conference of the All India Association of Training Colleges at Bangalore stated that, "teacher education in the country is in urgent need of reorganization in order to restore it to a position of leadership in the educational enterprise and to align its organization and functions to modern educational needs."[65] A bold step was taken to remodel the teacher education program by overcoming the existing weaknesses and by starting inservice programs, extension services, training for administrators, and integration of academic and professional courses on the American pattern. The implementation of unique American features of training programs in Indian training colleges has been made possible through the expertise and personnel provided by the United States Department of Health, Education, and Welfare, U.S.A.I.D., U.S. Educational Foundation in India, the Ford Foundation, and the Teachers' College of Columbia University.

Secondary School Teacher Training Program

Today, there are approximately 300 teacher training colleges for secondary teachers as compared to 51 in 1947, and these institutions are located throughout India. These institutions are preparing approximately 25,000 graduate and

---

[65]B. N. Pandey, Second National Survey of Secondary Teachers in India (New Delhi: National Council of Educational Research and Training, 1969), p. 1.

post-graduate teachers every year. The number of teachers in 1968-69 was 525,000, of whom 381,000 (or 73 per cent) were trained. In the Fourth Five Year Plan (1969-74) India will need 300,000 additional trained teachers, so 75,000 teachers must be trained per year. In Rajasthan, the teacher training program began in 1942 at Ajmer, and the number has increased from 2 in 1951-52 to 17 in 1970-71, with the intake capacity increasing from 120 to 180 each. According to state planning, 80 per cent of the total secondary school teachers will be trained by the end of the Fourth Plan.

At the All-India level 53 per cent of the teachers' training colleges are residential institutions. The highest percentage of such institutions is in Rajasthan (73 per cent) followed by Madhya Pradesh (60 per cent), and Orissa (50 per cent). The highest percentage of non-residential colleges is in Assam (67 per cent), followed by Mysore (58 per cent), and Jammu and Kashmir (50 per cent); 77 per cent of the teachers training colleges are co-educational institutions. "More than 80 per cent of the total institutions are to be found in 10 states, namely Assam, Gujarat, Jammu and Kashmir, Kerala, Madhya Pradesh, Maharastra, Mysore, Punjab, Rajasthan, Uttar Pradesh, and Union Territories."[66] There are only 40 institutions exclusively meant for women teachers. Rajasthan has only one college for male students, at Sardarshahr

---

[66]B. N. Pandey, op. cit., p. 7.

(Churu District) and another for women students at Vanasthali (Jaipur District).

The training institutions are controlled and managed by the universities, the state department of education, private bodies and the government of India. In Rajasthan, three training colleges are managed by the Department of Education; one by the government of India; one by the University, and 12 by private agencies. The private institutions fall in two categories (1) aided, and (2) unaided. The aided institutions are partially financed by the state government whereas unaided institutions are financially independent. In government managed colleges, the post of principal is equivalent to the deputy director of education and that of lecturer is equivalent to the higher-secondary school headmaster. Hence, deputy directors can be transferred to the post of principals or principals to the post of deputy directors. Despite the nature of the management, the university controls the institutions through its rules of granting recognition and by entitling them to send their candidates for university examinations. The university prescribes the syllabus and maintains standards among the training colleges. The university also awards the degrees of Bachelor of Education, Masters of Education, and Doctor of Philosophy (education).

Secondary and middle school teachers are required to hold Bachelor's degrees and have one year training in a teacher college. In Rajasthan for higher secondary grades

the minimum qualification for teachers is a post-graduate degree with one year's training. This professional degree in education has several different titles, such as B.T., L.T., or B.Ed. In Rajasthan it is known as B.Ed. (Bachelor of Education). The B.Ed. program is a prerequisite for a Masters of Education (M.Ed.), and similarly M.Ed. is required prior to gaining admittance to Doctoral programs. Admission to the B.Ed. course depends upon the candidate's college credentials and a personal interview. In spite of these techniques of recruitment, some deserving candidates are left out. Moreover, some unwanted candidates are selected. On the selection of teachers, Dr. J. S. Mehta remarked, "A person becomes a teacher when he does not find a job; he has no aptitude, but circumstances force him to become a teacher."[67]

The curriculum for the B.Ed. course is divided into three parts: theory, practice teaching, and arts and crafts. It is the "States of Punjab, Gujarat, Rajasthan, and West Bengal that prescribe the largest number of theory papers in the B.Ed. course."[68] In Rajasthan the theory syllabus consists of compulsory subjects and specialized studies. The compulsory papers (subjects) include Principles of Education and School Organization, Educational Psychology and Health Education, and Current Problems in Education. One may choose

---

[67]Dr. J. S. Mehta, personal interview.

[68]B. N. Pandey, op. cit., p. 46.

any subject for specialization from the following: (1) advanced educational psychology, (2) advanced educational philosophy, (3) psychology of childhood and adolescence, (4) experimental education, (5) educational and vocational guidance, (6) educational administration, (7) history of education, (8) comparative education, (9) educational sociology, (10) evaluation and measurement, (11) teacher education, and (12) one school teaching subject.

During the training period a student teacher is expected to teach between forty to forty-five lessons in two school teaching subjects. Each lesson is supervised by the college staff, who correct the lessons before teaching and give supervisory remarks after the period. The arts and crafts courses include drawing and painting; cardboard and paper work; wood and bamboo work; spinning and weaving; and agriculture. Mr. B. D. Tripathi commented on the curriculum that, "we have recently made the teacher training program content-oriented, which has been introduced in 1970. Some changes in the techniques of lesson planning have also been made." He continued that "the teachers should be familiar with social work and work-experience."[69] Student teachers, failing in any of the theory examinations, reappear for the examination one year later. Should a student earn a division

---

[69]Mr. B. D. Tripathi, personal interview.

III in practice teaching,[70] he automatically loses specialization. It is necessary, therefore, to pass the theory examination, as well as to secure a division II rating in student teaching. The scheme of internal assessment covers the sessional work, including tests and practice teaching. The examination results are printed in newspapers, similar to those of other board or university examinations.

The significance of teacher education was emphasized by the University Grants Commission (1949), the Secondary Education Commission (1953), the International Team on Teachers and Curriculum in Secondary Schools (1954), and the Education Commission (1966). "The essence of a programme of teacher education is quality and in its absence, teacher education becomes, not only a financial waste but a source of overall deterioration in educational standards."[71]

The training institutions have remained isolated from the academic life of the university. Education is taught in teacher preparatory institutions which have no relationship with the academic streams. "A well qualified teacher requires both knowledge of subject and understanding of the various

---

[70]Theory: I Division--60% marks, II Division--48% marks, and III Division--36% marks.
Practice: I Division--60% marks, II Division--48% marks, and III Division--40% marks.

[71]"The Report of the Education Commission, 1966," op. cit., p. 72.

facets of the teaching-learning process."[72] The Education Commission recommended that courses in education should be offered at the undergraduate and post-graduate stages, as an elective subject. To link the academic study and professional training is to "provide concurrent and integrated courses in general and professional education, on the pattern of teacher education in the U.S.A."[73] The four year integrated course of academic streams and pedagogy has been introduced and the Kurukshetra University in Punjab has been the pioneer in introducing the program.

Regional Colleges

Four regional colleges of education were established in 1963-64 on the American pattern, by the Ministry of Education, government of India, under the administration of the National Council of Educational Research and Training. Under a contract with U.S.A.I.D., Ohio State University has cooperated with these four colleges. The regional colleges have also received financial and personal assistance from U.N.E.S.C.O. under its Technical Assistance Program. These regional colleges serve the following zones (regions): (1) Regional College of Education, Ajmer, Northern Region--Haryana, Jammu and Kashmir, Punjab, Rajasthan, Delhi, and

---

[72]Gordon C. Lee, Education in Modern America (New York: Henry Holt and Company, 1959), p. 345.

[73]"The Report of the Education Commission, 1966," op. cit., p. 72.

Himachal Pradesh; (2) Regional College of Education, Bhubaneshwar--Eastern Region--Bihar, Orissa, West Bengal, Assam, Nagaland, Manipur, Tripura, and North East Frontier Agency; (3) Regional College of Education, Bhopal--Western Region--Maharastra, Madhya Pradesh, Gujarat, and Goa; and (4) Regional College of Education--Southern Region--Andhra Pradesh, Mysore, Kerala, Tamil Nadu, and Pondicherry.[74]

The regional colleges of education offer four year courses of teacher-education in science, technology, and agriculture to the higher-secondary graduates, and one year courses of teacher-education in home science, fine arts, commerce, agriculture, science, and technology to college or university graduates. More specifically, the functions of regional colleges are to provide training for the multi-purpose higher-secondary schools of the region; to organize inservice training programs for teachers and administrators; to prepare teaching materials and aid for schools; to undertake study and research projects in teaching methods; to serve as coordinating regional centers for other training institutions; and to maintain an attached demonstration higher-secondary school. In differentiating the regional college from other institutions, Dr. R. C. Das commented, "We don't want to do what other training colleges are doing. We want to supplement their work. The science teachers and

---

[74]S. N. Mukerji, Education of Teachers in India, Vol. I (New Delhi: S. Chand and Company, 1968), p. 230.

teachers of vocational subjects are being trained here." While evaluating the program he continued, "We gave up training home science teachers and technical teachers, because of lack of technical schools."[75]

The regional colleges of education offer instruction in the three areas of general education, professional education and subject knowledge or contents, in the following subjects: (1) General education--English, regional languages, social sciences, health, physical education, and recreational; (2) Professional education--general and educational psychology, workshop in teaching, foundations and problems of education, special methods, and student teaching; (3) Content--physics, chemistry, biological sciences, mathematics, physiology and hygiene, and workshop practice.[76] On the study of integrated programs in regional colleges, the time spent is 19 per cent in general education, 22 per cent in professional education, and 59 per cent in content courses.

Dr. John P. Lewis, Director, U.S.A.I.D. Mission to India, while addressing the new graduates at the Regional College of Education at Mysore stated for the success of this new program, "They seek to be centers of academic excellence whose graduates are so demonstrably competent that the

---

[75]Dr. R. C. Das, Principal, Regional College of Education, Ajmer, Rajasthan, July 17, 1970.

[76]S. N. Mukerji, "Education of Teachers in India, Vol. I," op. cit., p. 238.

teaching methods they employ and the grasp of subject matter they display serve as standards for all teacher training institutions throughout the country."[77] Some educators believe that the four year integrated training program or one year training course after the bachelors degree does not provide enough time for the preparation of secondary school teachers. They suggest that the course of the B.Ed. should be lengthened by an additional year. On the other hand, its critics believe that "any lengthening of the training course would not only create financial problems for the country but also inevitably slow down expansion, which is undesired in view of the heavy backlog of untrained teachers."[78] There are thirteen universities offering education as an elective and in which it is considered an academic discipline. The government of Rajasthan "endorses the proposal to set up a school of education in the University of Rajasthan. In the beginning this school should engage itself with the training of teacher educators, educational administrators, extension workers, and heads of institutions."[79]

---

[77] J. C. Agarwala, op. cit., p. 21.

[78] "Discussion Paper on the Major Problems of Secondary Education," op. cit., p. 39.

[79] "A Draft Paper on Educational Development in Rajasthan, 1968-69--1975-76," op. cit., p. 46.

Extension Services

The training institution functions in isolation of the schools and its problems, and once a teacher receives his training, he does not receive any professional assistance or guidance. Similarly, the teacher preparatory institutions are not aware of the practical problems of the youth or the profession. Thus, in recent years extension service departments have acquired an important place in Indian secondary education. These departments were established on the recommendation of an international team of experts, appointed by the government of India in 1954. The team reported, "The extension service departments are established with a view to refresh the teacher's knowledge, to make him aware of new ideas and practices, and to enrich his personal and professional experiences."[80] In addition, extension service means the proper use of curriculum, co-curricular, and professional programs in educational process. Through extension centers, the school's problems can be solved by bringing schools and training institutions close together. The All India Council for Secondary Education, sponsored by the Ministry of Education has been financed by the Ford Foundation and the Technical Cooperation Mission (TCM) of the United States, in regard to necessary financial assistance and established extension

---

[80] Report of Extension Services Department (Bikaner: Government Teachers Training College, 1961), p. 1.

departments. "In the beginning initial expenditure, equipment, library books, one jeep costing Rs. 100,000.00 was given to each center by the Ford Foundation."[81] Afterwards the All India Council for Secondary Education, Delhi, continued to finance and control them. The program was later put under the control of the National Council of Educational Research and Training.

There are 100 extension departments of which 55 are extension units.[82] Each one is attached to a training college. The principal of the college is honorary director of the department. In Rajasthan there are four extension service departments. One is located at Bikaner, one in Udaipur, two in Ajmer and one in Sardarshahr. These service departments provide services to neighboring schools. The Bikaner center serves six districts, the Udaipur serves eight, the Sardarshahr serves two, and Ajmer six. The Regional College at Ajmer serves the northern states.

The major function of the extension service is to provide firsthand experiences for the teachers' professional growth, by way of orientation courses on methods of teaching, demonstration lessons, and visits of training college staffs

---

[81]Personal interview with Mr. V. B. Lal Mathur, Coordinator, Extension Services Department, Government Teachers Training College, Bikaner, Rajasthan, August 7, 1970.

[82]The extension units are organized on a smaller scale and receive lesser budget than extension services department.

to schools, as well as guidance. The programs undertaken by the majority of the centers include experimental projects, science clubs, fairs, annual zonal/state conferences, workshops for specific objectives, training of coordinators, symposia, extension talks, demonstration lessons, audio-visual aid services, and library services.

Each extension center has a well-equipped library of American books, periodicals, and professional journals. The library service of the extension centers offers concrete services to teachers. Educators and scholars who use these libraries are very pleased with the availability of such literature. In the words of Gulab Ghaurasia, "Some people in Delhi honestly believed that if these books were studied by teachers, they would become up-to-date in their knowledge of educational theory and practice. Consequently, educational reforms would follow."[83] The new literature, pertaining to innovations in education, is available to school personnel.

The extension departments of Rajasthan are accomplishing their objectives of reorientation, concerning the ever growing problem of the schools. Teams of subject specialists from teacher training colleges, including one headmaster and one senior teacher, visit primary and secondary schools of the area without prior notice and later hold a discussion meeting with teachers. The teachers and students are

---

[83] I. J. Patel, M. B. Buch, and M. N. Palsane, op. cit., p. 107.

encouraged to prepare their own teaching aids. Guidance is provided to schools which are conducting any experiments. The extension workers ask school teachers to do research and write articles in professional journals. In addition, the extension centers undertake activities including experimental projects, school library improvement programs, collection and dissemination of tested practices, summer institutes, visits of teachers and headmasters to the centers, workshops for middle school teachers, and assistance to subject teachers and headmasters.

As a result of extension services, the schools are drawing closer to th training institutions. The school teachers and the training staffs have better relations and open channels of communication. To some extent, they are unable to "bridge the gap between the acute problems which the teacher is expected to solve and the teacher education programme which prepares him to face these problems."[84] Practical problems should be discussed in the regular training programs and the extension and training college staff must help teachers and heads of institutions in solving them. Discussing the role of extension departments, J. Paul Leonard, Chief of the Party, Teachers College, Columbia University Team in India (1961-67) remarked, "If the extension centers

---

[84] S. B. Maheshwari, "Professional Problems of Trained Secondary School Teachers," Journal of Education and Psychology, XXV, No. 3 (October, 1967), 211.

are to serve their functions they must be like tanks of water to which all come to drink and get refreshed."[85] The extension centers should evaluate their success in terms of progress made by schools and teachers and make further improvement by involving more teachers.

Extension service departments are established with the experts' advice and in the beginning were partially financed by the United States to improve the quality of teacher education programs in India.

Inservice Education

Shri Rabindra Nath Tagore, a Nobel Prize winning poet, once remarked, "a lamp can never light another lamp unless it burns its own flame." Similarly, a teacher cannot teach if he ceases to learn. "Inservice education of teachers is thus a sine qua non in a fast developing society."[86] The concept of inservice training for teachers originated and materialized in the United States. For the implementation of recommendations of the Secondary Education Commission and the International Study Team, inservice education was implemented in India. The International Study Team recommended that, "education departments consider ways and means of helping teachers to obtain inservice training and recognize the

---

[85] I. J. Patel, M. B. Buch, and M. N. Palsane, op. cit., p. 7.

[86] L. D. Gupta, A New Venture in Education (New Delhi: Acharya Book Depot, 1970), p. 37.

improvement in their professional and academic qualifications by suitable salary increment."[87]

In India, inservice education was planned with the active involvement of experts from American universities. Dr. Buch says that "the educationists from the U.S.A. working with the government of India were also instrumental in creating a climate which led to the origin and development of inservice education programme in India in 1955, and its establishment on an organized and instrumental basis."[88]

The purpose of inservice education is twofold--(1) training imparted to teachers after they have entered the profession, and (2) continuation of the professional growth of the teachers. It brings teachers up-to-date with the philosophies, learning theories, curriculum developments, and innovations in education "with a view to developing improved teacher competence, better teaching skills, and more sensitive awareness of the teaching-learning process in the changed situation."[89] It is possible that after a certain period of time even a well trained teacher loses touch with professional readings. Because of a heavy teaching load and and other commitments, he probably does not have time to grow

---

[87]"Report of a Study by an International Team," op. cit., p. 5.

[88]I. J. Patel, M. B. Buch, and M. N. Palsane, op. cit., p. 180.

[89]"The Report of the Education Commission, 1966," op. cit., p. 184.

in the field of education. It is, therefore, necessary that "constant outpouring needs constant intaking, practice must be reinforced by theory and old must be constantly tested by the new."[90] A beginning for a program has been made in this direction and currently these programs are being organized all over the country.

Inservice training is usually received through seminars, workshops, conferences, regular courses and, in recent years, through summer institutes. Such activities are organized by N.C.E.R.T., training colleges and extension departments. The summer institutes have been a great help in providing inservice education to the teachers of high school and higher-secondary schools and college lecturers. The Central government through the joint efforts of the Ministry of Education, University Grants Commission, the N.C.E.R.T., the Indian Society for Technical Education, and National Council for Science Education arranges summer institutes. The arrangements of summer institutes at the state level are made jointly by the teachers training institutes, departments of education, and boards of examination with the help of N.C.E.R.T. The summer institutes are of American design, and the U.S. Office of Education, U.S.A.I.D., and the National Science Foundation have provided professional and consulting

---

[90] S. Srivastava, "Historical Growth of Inservice Education in India," Journal of Education and Psychology, XXV, No. 1 (April, 1967), 9.

services to the Ministry of Education of the government of India through N.C.E.R.T. and the Director of State institutes of Science Education, for summer science institutes.

The dynamic Summer Science Institutes Program, which began in 1963, seeks to bring college and secondary school teachers of science and mathematics up-to-date on new methods of teaching their subjects. "The curriculum of science institutes has been developed from: (1) physics--Physical Science Study Committee, (2) chemistry--Chemical Educational Study, (3) biology--Biological Science Curricular Study, and (4) mathematics--School Mathematics Study Group.[91] The teachers attending the institutes study the latest methods of instruction and are taught to use new laboratory techniques and teaching aids. The texts, which incorporate new teaching techniques and emphasize inquiry and observation, are given to trainees. Some of the experimental kits are made from local material and others are imported from the U.S.A. Mathematics teachers are introduced to the concept of new mathematics and curriculum revision, through summer science institutes.

In the eight year period since 1963, more than 31,000 Indian teachers of pure and applied science and mathematics have participated in some 876 institutes, with a total of 1,100 American consultants. U.S. participation was

---

[91] S. N. Mukerji, Education of Teachers in India, Vol. I, op. cit., p. 396.

discontinued in 1970 and institutes in 1971 will be self-sufficient. The summer science institute programs are going to be continued because they proved to be very beneficial in the improvement of science teaching. Discussing the success and efficiency of summer science institutes, Mr. K. L. Bordia has stated, "The stimulation of new ideas and new horizons of scientific thought has met with the feedback of school experience. This cross-fertilization of theory and experience will result in the evaluation of a new and better type of science education in the state."[92] More than 2,000 science teachers have received training through summer science institutes organized by N.C.E.R.T., with the help of the National Science Foundation.

Inservice training for teachers of other subjects is also provided through summer and full time inservice education institutes. In Rajasthan an effective program of 4 to 6 weeks is provided every five years to each headmaster and teacher of the secondary and middle schools, with a special emphasis on the teaching of English, Hindi, and Social Studies. The summer institute programs have moved one step ahead of other states, by arranging refresher training centers. These are regular training programs. Only in Rajasthan are refresher training courses organized at thirteen different centers. Explaining the nature of refresher centers and the

---

[92]Mr. K. L. Bordia, personal interview.

duration of the training, Mr. C. S. Mehta says, "For headmasters of middle schools, 6 weeks; Hindi teachers of middle schools, 6-8 weeks; for all middle school teachers, 6 weeks (in three subjects); for English teachers of higher secondary grades, 9-10 weeks; and primary teachers, 4 weeks (in all subjects, with special attention on Hindi, Mathematics, Social Studies, and General Science) Refresher courses are organized."[93]

Summer school correspondence courses for secondary school teachers at the Central Institute of Education, New Delhi, and regional colleges of education have also been started by N.C.E.R.T. The Department of Education of Rajasthan makes correspondence courses available to teachers for improving the academic and professional qualifications. State teachers are also encouraged to attend the specialized courses, which include audio-visual education, research methodology, teacher education, curriculum development, and evaluation. These courses are organized by N.C.E.R.T., and other central agencies.

Inservice training is also provided through workshops, short term orientation courses, and seminars. The publications program for the teachers has substantially improved. Educational tours and visits to important educational centers, within Rajasthan and outside, have been proposed by the

---

[93]Mr. C. S. Mehta, personal interview.

Department of Education. Thus, it can be seen that secondary school teachers of Rajasthan are benefited by inservice programs. Dr. S. N. Mukerji describes the enthusiasm among the teachers of Rajasthan for inservice training programs in this way: "Programs on a massive scale were organized at various places, and one could always find teachers on the wheels if one were to undertake state wide tour in Rajasthan."[94]

Inservice education for teachers is an entirely American phenomenon, accepted and developed in the teacher training colleges of India, consisting of summer institutes, workshops, seminars and refresher courses.

Training for Administrators

The training of inspectors, heads of the institutions, and other administrative personnel is the most recent development in Indian education. Its origins are also to be found in the United States. Influenced by the American ideals, the most useful change has been made in the training program of Indian educators. "The State Institute of Education in all states have developed a programme of giving orientation courses to inspectors and supervisors in the new concept of supervision."[95] The headmaster is the key person in the improvement of the teaching-learning situation, management,

---

[94] S. N. Mukerji, Education of Teachers in India, Vol. II, op. cit., p. 293.

[95] Gulab Chaurasia and Gopinath Kaul, op. cit., p. 351.

and administration. Nevertheless, he himself is a teacher, with a major responsibility. Similarly, the inspector of schools supervises the school in his district. The headmaster and the inspector deal directly with the teachers and the profession of teaching.

"The educational administrator of today who loses his touch with education as such, generally speaking, has no knowledge of the urges of the youth and the needs of the public."[96] As a matter of fact, the deputy directors, inspectors, and secondary/higher-secondary headmasters in Rajasthan have professional training. Because of busy schedules and administrative responsibilities, they have no opportunity to improve their professional knowledge, other than by reading educational literature. Thus, a beginning has been made for the inservice program for all heads of institutions and other administrators to grow professionally. Short term refresher courses, for 6 weeks, have been organized for headmasters and every head of an institution is expected to attend once every five years. Inspectors, headmasters, and training college lecturers are encouraged to pursue post-graduate study in education.

Subject teachers are being benefited professionally through extension services, and inservice education, summer institutions, workshops, seminars, and refresher courses.

---

[96] D. C. Sharma, "Educational Administrator: A Profile," Education Quarterly, XIX, No. 3 (October, 1967), 35.

But some teachers feel that summer institutes conducted by N.C.E.R.T. have no significance or use for teachers. Some critics find defects in the syllabus, inefficient resource personnel, lack of cooperation among participants, unsuitable location, and lengthy duration of summer institutes. In discussing the unsuitability of the syllabus and making suggestions, Mr. Nanda says, "The need is to frame a suitable and earthy syllabus to be covered there. This can be done by consulting teachers who are really teaching those subjects, and not by imagining things by sitting in the air conditioned rooms."[97] The summer science institutes have been the most beneficial in revolutionizing the classroom techniques of secondary schools in India. But still "there is a scarcity of qualified teachers in physics and chemistry and modern methods of teaching. The main emphasis is on teacher education in the fourth five year plan to improve the quality of teachers,"[98] according to Miss S. Datta.

Despite various improvements in training programs, the quality of teacher institutions remains normal because of the staff and teaching methods. The training colleges could not attract a competent staff. The situation is worse in some of the privately managed institutions. In one study

---

[97] S. K. Nanda, "What is Wrong with Summer Institutes," Educational Review, LXXV, No. 3 (March, 1969), 51.

[98] Personal interview with Dr. (Miss) S. Datta, Vice Principal, Central Institute of Education, New Delhi, August 12, 1970.

it was found that "40 per cent of the staff in secondary training colleges have only B.A. degrees in addition to B.Ed.; 58 per cent hold a Master's degree and only 2 per cent have a doctoral degree."[99] The Education Commission has recommended that the staff of the training college should have two Master's degrees; one in an academic subject and one in education, and at least 10 per cent should have a doctorate.

The methodology used by the training college staff in teaching student-teachers is inadequate and outmoded. "Their shops are old, goods are old, their means are old, and their values are dust covered."[100] The lecture method is the only technique used in presenting the material. Outdated books are used and actual school problems are neglected. There is an urgent need to change teaching methods, techniques, and practices. "By and large, teachers are like artisians rather than artists and, therefore like the technician, he should receive very specific training to practice his methods scientifically only then, will the quality of product be better."[101] Thus, if school education has to be improved, the standards and quality of the professional education at the teacher training level must be improved. As

---

[99] J. K. Shukla, op. cit., p. 41.

[100] T. R. Sharma, op. cit., p. 16.

[101] S. K. Mitra, Improvement in Teacher Education (New Delhi: National Council of Educational Research and Training, 1968), p. 8.

recommended by the Education Commission, the government of Rajasthan has set up a Board of Teacher Education at Bikaner, for the improvement of teacher education. The principals of teachers training institutions, lecturers, and education administrators are the members. Its major objective is to survey the present system of teacher education and make suggestions for future improvement.

In Rajasthan the curriculum of training colleges has recently become content oriented. The extension departments are providing excellent services to schools and their teachers, by giving them spot guidance. Summer institutes, workshops, discussion group activities, refresher training programs and seminars are organized on a massive scale to provide inservice training for administrators and teachers of secondary and primary schools. The Department of Education of Rajasthan, the Board of Secondary Education, the State Board of Education, the Extension Departments and Teachers Training Colleges Staff are cooperating in the improvement of state teachers' training institutions.

In summary, the improvement of instruction at the secondary level is possible by employing the right type of teaching methods, instructional materials, and techniques; by introducing accurate and valid measures of evaluation of pupils' programs, and by preparing adequate and qualified teachers. The quality of secondary schools has been improved to some extent by adding some programs which have been imported

from the schools and colleges of education in the United States. These include programmed learning, intensive use of audio-visual aid and supplementary material, improved science apparatus, improved methods of teaching science, English, mathematics, and workbooks. The examination system has been modified on the recommendations of Dr. B. S. Bloom, by introducing objective and short answer questions, and a scheme of comprehensive internal assessment. Despite the changes in Rajasthan, internal assessment is limited to non-scholastic performance of the pupils and has no bearing on the final or board examinations. The teacher education program has been changed and adapted to the design of the colleges of education in the U.S.A., by introducing the integrated programs of academic and professional courses, making training subjects and content oriented; organizing inservice education, summer institutes, workshops, refresher training, and training of administrators. American practices were accepted as guidelines, but implemented according to the local needs of the states. Hence each state has adopted American practices differently. Changes were made possible under the close guidance of the U.S. Department of Health, Education and Welfare, U.S.A.I.D., N.S.F., the Ford Foundation, Ohio State University, Teachers College Columbia University, N.C.E.R.T., University Grants Commission, and the National Council of Science Education. The state governments provided technical, professional and financial assistance in cooperating with these agencies.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was designed to identify, investigate, and evaluate the changing spectrum of secondary education in India since independence, in 1947, in terms of the influence of American educational ideologies and experiences. More specifically the study was intended to:

1. explore the impact of American educational practices in the fields of structural organization; curriculum development; teaching methods; examination systems; and teacher education in Indian secondary education with a special reference to these aspects of education in the State of Rajasthan;

2. analyze the findings in the specified areas on Indian secondary education to assess the overall general effect of American education on the secondary schools in Indian states and Rajasthan;

3. assess the changes in terms of the local and national needs and social ideals of the country; and

4. examine briefly the influences of other foreign nations on Indian secondary education.

In order to accomplish this investigation, descriptive historical research methodology was used. More specifically the research employed a personal interview with various authorities both at the Indian government and state levels who were engaged in planning, programming, implementing, financing, and practicing education. A letter of inquiry was sent to each state to both the Director of Education and the Chairman, Board of Secondary Education. A number of Secondary/Higher-Secondary schools in Rajasthan were visited to discuss current educational practices with the headmasters and teachers.

The existing literature and related material was reviewed, including government documents produced by the governments of India and the United States, as well as reports published by the government offices and agencies of the U.S. and India.

Summary of Findings

Indian education has been influenced by the Vedic, Buddhist, Muslim, British and the American education systems. In the post-independence period, Indian governmental officials have sought advice and the consulting services of educationists and experts from the United States and other nations in attempts to develop rapid improvement and steady progress in Indian education. Because of similar democratic ideologies existing in India and the United States, American education

has exerted considerable influence on Indian secondary schools.

The concept of the "neighborhood school" or "common school," widely popular in American education, has been adopted by India to promote an integrated society.

Training for school administrators is an unique American feature now commonly practiced in Rajasthan. Supervision of teaching at the secondary level has replaced the existing inspection to improve instruction, and has been adopted from the educational practices of the United States.

The introduction of work-experience as a compulsory activity is an American influence on the Indian curriculum. Although work-experience is also found in the U.S.S.R. schools, its goal in India is to develop productive and efficient citizens.

The number of years in secondary education has been increased and student specialization is being postponed for a later period in the student's educational career to strengthen general education as found in the secondary schools of the United States.

Social studies and general science have been added to the secondary curriculum and are taught in the same broad integrated subject areas as are found in the United States.

The content of the elementary mathematics curriculum has been reorganized to upgrade mathematics, especially algebra and geometry. These changes were based on

recommendations of experts and teachers from the United States.

In reorganizing the language curriculum in India, the major influence is not American, but rather Russian and Scandinavian.

The scheme of diversification and establishment of multipurpose schools has been patterned after the comprehensive American high school. In the future, the selection of courses will depend on the special interests of the student rather than on a compulsion to take his three electives from only one subject area.

The various co-curricular activities offered in Indian schools have improved considerably in recent years. Student government, a direct influence of American education, has been introduced in India to strengthen and practice democracy in the schools.

School guidance programs are an American phenomenon, adopted by a majority of Indian states in the 1950's. Nevertheless, guidance services in Rajasthan are limited only to testing students and providing occupational information.

The teaching of science in Indian secondary schools has improved as a result of advanced methods and media developed in the United States. The teaching of English in Indian secondary schools has been influenced by both British and American efforts.

American made laboratory equipment is used extensively in Indian classrooms. It is both imported from the United States and locally made with the assistance of American teachers or scientists.

American Programmed Learning material is being used in various Indian states, although it has not been too effective. However, locally prepared items are used on an experimental basis.

The entire concept of evaluation is American, and has been developed in India by the expert advice of Dr. Benjamin S. Bloom since 1958, and includes objective based teaching, objective type tests and internal assessment. The scheme of internal assessment so popular in the American schools, has not been successfully implemented in the Indian states. In Rajasthan the scheme is limited to the evaluation of non-scholastic activities.

Dynamic programs for the training of secondary school teachers are being introduced in Rajasthan and other Indian states as found in American teacher preparation programs.

Technical and vocational education is highly affected by Russian education as the Polytechnic schools and some engineering colleges are designed like those found in the U.S.S.R. Nevertheless, engineering colleges are also influenced by British and American technology.

In the post-independence period the literacy rate at the All India level had increased from 12.2 per cent in 1947

to approximately 30 per cent in 1969, and in Rajasthan from 8.9 per cent in 1951 to 30 per cent in 1969.

For the sake of modernizing the country, Indian educators have implemented foreign educational practices in secondary schools on a massive scale without trying out smaller projects and pilot studies in different situations.

A persistent problem remains in Indian education because of the conflict between the federal government and the state governments over who should plan the educational programs. Currently, at All India level decisions are made for the states to implement them.

Conclusions

The progress of Indian secondary education since 1947 is due in part to cooperative efforts of Indian-American educators in adopting educational ideas from the United States.

Indian education will likely continue to follow some of the educational paths pioneered by Americans because of the similarities of ideologies of the two countries.

Indian education is taking form and making progress in various phases of its programs, as a result of the active interest and participation of American educators and foundations.

Some of the American programs have enjoyed limited success because Indian educators have been too willing to implement those programs without adequately adapting them to

the Indian society and culture, or without conducting pilot programs in selected Indian schools before mass implementation.

Indian education has even suffered some of the pitfalls of American education. For example, Indian education has put great emphasis on mathematics and sciences, to the neglect of the humanities. Educators of both countries are beginning to realize that education must be balanced.

The educational practices at the state level do not necessarily serve the needs of the local community.

Recommendations

The results of this study suggest some general recommendations for Indian education and further research.

General Recommendations

1. Indian educators should carefully consider the uniqueness of Indian culture and its society before implementing educational programs developed by any foreign nation.

2. New programs should be thoroughly analyzed; carefully adapted to Indian schools; and implemented in experimental programs before being accepted and implemented in all Indian states.

3. Indian educators must be aware of fads in education. True progress is a steady rate of growth in all areas. One area cannot be sacrificed or neglected to promote rapid progress in another area.

4. It is recommended that experts or teams of experts coming from foreign countries should be given ample opportunity to study and get themselves acquainted with the Indian conditions before suggesting any change or modification in the existing system.

5. For the improvement of instruction and to bring quality in education, the curriculum should be developed and revised on the basis of up-to-date knowledge by subject teachers and school administrators.

6. In organizing the subject content, examples and illustrations must be presented from local environment rather than foreign countries to make instruction a reality.

7. It is recommended that there should be a smoother transition between the curriculum of primary, middle and higher secondary sections. This may decrease failures and dropouts to some extent.

8. There should be close cooperation and coordination between the educators at state and national levels.

9. It is recommended that planning should involve teachers first at the institutional and district levels and finally at state levels. The government of India and its subordinate departments must provide guidance, supervision, standards, and financial support.

Recommendations for Further Research

1. Comparative studies are recommended to evaluate the American impact on different states of India in various aspects of secondary education.

2. Individual studies should be made in each school subject of the impact of American education so that teachers might gain a better understanding of the programs they are involved in.

3. Further studies should be made to investigate educational practices of other countries so that a comparison can be done.

4. An investigation should be made of the financial aid for education received in different countries, and their implications for Indian education and the Indian economy.

5. Further studies are recommended to assess the possibility of supervised study periods which might be incorporated to develop good study habits among secondary school students.

6. Research should be conducted to assess the success of both internal assessment and external examinations.

BIBLIOGRAPHY

Books

Agarwala, J. C. Recent Development in Indian Education. New Delhi: Arya Book Depot, 1967.

Bannett, H. E. School Efficiency. Boston: Ginn and Company, 1925.

Basham, A. L. The Wonder That Was India. London: Sidwick and Jackson, 1954.

Beck, Carlton E., ed. Perspective on World Education. Milwaukee: W. M. C. Brown Company, 1970.

Bernard, H. C., and Lawerys, J. A. A Handbook of British Educational Terms. London: George G. Harrap and Company, Ltd., 1963.

Bloom, Benjamin S. Evaluation in Secondary Schools. Chicago: University of Chicago Press, 1951.

Brown, Norman W. The United States and India and Pakistan. Cambridge: Harvard University Press, 1963.

Chamberlain, William C. Education in India. New York: MacMillan and Company, Ltd., 1899.

The Concept of Evaluation in Education. New Delhi: Director of Extension Programme for Secondary Education, National Council for Educational Research and Training, 1963.

Fact Sheet: United States Economic Assistance to India, 1951--July, 1970. New Delhi: The United States Information Service, Embassy of the United States, 1970.

Ford Foundation--Annual Status Sheet: Assistance to India Development Programs and Projects. New Delhi: Ford Foundation, 1969.

Good, Carter V. Dictionary of Education. New York: McGraw Hill Book Company, Inc., 1945.

Gupta, L. D. A New Venture in Education. New Delhi: Acharya Book Depot, 1970.

Harmin, S. A., and Erickson, C. E. Guidance in the Secondary School. New York: Appleton-Century Company, 1939.

Henderson, George, and Bibens, Robert F. Teachers Should Care: Social Perspective of Teaching. New York: Harper and Row Publishers, 1970.

Howell, A. P. Education in British India. Calcutta: Government Printing Press, 1872.

Kabir, Humayun. Education in India. London: George Allen and Unwin, Ltd., 1956.

King, Edmund. Other Schools and Ours: A Comparative Study of Today. 3rd ed. New York: Holt, Rinehart and Winston, Inc., 1967.

Kochhar, S. K. Secondary School Administration. Delhi: University Publishers, 1964.

Lee, Gordon C. Education in Modern America. New York: Henry Holt and Company, 1959.

Majumdar, R. S. An Ancient History of India. London: MacMillan and Company, Ltd., 1953.

Michael, Edward. British India, 1772-1947. New York: Taplinger Publishing Company, 1967.

Mitra, S. K. Improvement in Teacher Education. New Delhi: N.C.E.R.T., 1968.

Mitra, Veda. Education in Ancient India. New Delhi: Arya Book Depot, 1964.

Mookerji, Radha Kumud. Ancient Indian Education. London: MacMillan and Company, Ltd., 1947.

Mudaliar, A. L. Education in India. New York: Asia Publishing House, 1960.

Mukerji, S. N. Education of Teachers in India, Vol. I. New Delhi: S. Chand and Company, 1968.

Mukerji, S. N. Education of Teachers in India, Vol. II. New Delhi: S. Chand and Company, 1968.

Mukerji, S. N. History of Education in India: Modern Period. Baroda: Acharya Book Depot, 1966.

Mukerji, S. N. Secondary School Administration. Baroda: Acharya Book Depot, 1963.

Naik, J. P. Educational Planning in India. New Delhi: Allied Publishers, 1965.

Nurullah, Syed and Naik, J. P. History of Education in India During the British Period. London: MacMillan and Company, Ltd., 1943.

Pandey, B. N. Second National Survey of Secondary Teachers in India. New Delhi: National Council of Educational Research and Training, 1969.

Patil, I. J.; Buch, M. B.; and Palsone, M. N., eds. Readings in Inservice Education. Vallabh Vidhyanagor: Sardar Patil University, 1969.

Raja, Kunhan C. Some Aspects of Education in India. Madras: The Vasanta Press, 1950.

Siqueira, T. N. Modern Indian Education. Calcutta: Oxford University Press, 1960.

Smith, V. A. The Oxford History of India. 3rd ed. Oxford: Clarendon House, 1958.

Thomas, F. W. History and Prospects of British Education in India. London: George Bell and Sons, 1891.

VanTill, William; Vars, Gordon F.; and Loundsbury, John H. Modern Education for the High School Years. Kansas City: The Bobbs-Merrill Company, Inc., 1967.

Wiles, Kimball. The Changing Curriculum of the American High School. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965.

Yousuf, Husain. Glimpses of Medieval Indian Culture. New York: Asia Publishing House, 1957.

Articles in Journals and Periodicals

Chari, M. S. V. "India Education: Ancient and Modern." Educational Review, LXXIV, No. 10 (October, 1968), 232-237.

Chaurasia, Gulab, and Kaul, Gopinath. "Recent Trends and Developments in Primary and Secondary Education in India." International Review of Education, XIII, No. 3 (July, 1967), 345-354.

"Editorial." The Rajasthan Board Journal of Education, V, No. 2 (April-June, 1969), 1-2.

"Education in India in 20th Century." Monthly Commentary on Indian Economic Conditions, IX, No. 5 (December, 1967), 79-80.

"Examinations: The Struggle for Survival." The Overseas Hindustan Times, XXI, No. 16 (April 18, 1970), 1 and 16.

"The Fulbright Letter." The Fulbright Letter. Spring, 1970, 6.

"Integration Through Text Books." The Overseas Hindustan Times, XXI, No. 20 (May 16, 1970), 11.

Kakkar, S. B. "Mass Failure at Higher Secondary Level." Educational Review, LXXV, No. 9 (September, 1969), 207 and 209-211.

Khan, Mohammad I. "Science and Mathematics in Ancient India." India News, IX, No. 5 (April 24, 1970), 3.

Lulla, B. P. "Improvement of Secondary School Curriculum." Indian Education, VII, No. 9 (August, 1968), 32-38.

Maheshwari, S.B. "Professional Problems of Trained Secondary School Teachers." Journal of Education and Psychology, XXV, No. 3 (October, 1967), 211-225.

Mehta, J. S. "Comparative Work-Experience Programme." Naya Shikshak, XI, No. 4 (April-June, 1969), 45-60.

Naik, J. P. "A Review of the Achievements of the Five Year Plans, 1951-65." Educational Quarterly, XIX, No. 4 (January, 1968), 28-33.

Nanda, S. K. "What Is Wrong With Summer Institutes." Educational Review, LXXV, No. 3 (March, 1969), 51-52.

Nigam, Raghuvir Sahay. "Indo-U.S. Educational Foundation." Educational Review, LXXIV, No. 1 (January, 1968), 51-52.

Obourm, Ellsworth S. "India Trains Teachers For a New Age." American Education, I, No. 3 (March, 1965), 16.

Panda, Surendranath. "Centre-State Relations in Education: A Case for Redefinition." Naya Shikshak, XII, No. 3 (January-March, 1970), 20-26.

Patel, A. S. "Problems of Curricular Organizations." Indian Education, VI, No. 1-2 (December, 1966-January, 1967), 17-22.

Ramanathan, G. "The Quest for General Education." Illustrated Weekly, LXXX, No. 28 (July 13, 1969), 46.

Sapra, C. L. "Reduce Wastage and Stagnation." Naya Shikshak, XI, No. 2 (October-December, 1968), 9-13.

Sharma, D. C. "Educational Administrator: A Profile." Education Quarterly, XIX, No. 3 (October, 1967), 31-35.

Sharma, T. R. "The New Secondary Schools." Indian Education, VIII, No. 8 (July, 1968), 10-16.

Shukla, J. K. "Teacher Education for Tomorrow's Needs." The Rajasthan Board Journal of Education, V, No. 3 (July-September, 1969), 33-45.

Singh, Bir. "How School Causes Failure: A Study." The Rajasthan Board Journal of Education, V, No. 2 (April-June, 1969), 11-15.

Singh, R. P. "American Influences on Indian Education." National Institute of Education Journal, IV, No. 3 (January, 1970), 14-19.

Srivastana, S. "Historical Growth of Inservice Education in India." Journal of Education and Psychology, XXV, No. 1 (April, 1967), 5-11.

"Unhappy Teachers." Link, X, No. 30 (March 3, 1968), 18-19.

Willis, Porter. "Secondary Education in India." High School Journal, L, No. 4 (January, 1967), 192-198.

Government Publications

Committee 'E' on Draft Fourth Five Year Plan Synopsis of Proceedings. New Delhi: Lok Sahha Secretariate, 1967.

Constitution of India, Part IV, Article 45, Para 1. New Delhi: Manager Publication, Government of India, 1949.

Discussion Paper on the Major Problems of Secondary Education. New Delhi: Education Commission, Government of India, 1965.

Education in Eighteen Years of Freedom. New Delhi: Ministry of Education, Government of India, 1965.

Education in Soviet Union. New Delhi: Ministry of Education, Government of India, 1962.

Educational Statistics in Rajasthan. Bikaner: Directorate of Primary and Secondary Education, Government Press, Rajasthan, 1969.

India, 1969. New Delhi: Manager Publication, Government of India, 1969.

Kabir, Humayun (Chairman). The Gazelteer of India, Vol. I. New Delhi: Publication Division, Ministry of Information and Broadcasting, Government of India, 1965.

UNICEF Aided Project on Science Teaching at the School Stage. Faridabad: Ministry of Education, Government of India Press, 1968.

White Paper. Bikaner: Department of Education, Government of Rajasthan, 1968.

Reports

A Draft Paper on Educational Development in Rajasthan, 1968-69 to 1975-76, Official Report. Bikaner: Directorate of Primary and Secondary Education, Rajasthan, 1968.

Gadgil, D. R. Address to the Conference of Education Secretaries of States and Union Territories. New Delhi: March 16-18, 1968.

The Nation and the School. New Delhi: Publication Unit, National Council of Educational Research and Training, 1969.

Programmed Learned Feasibility Study: Tentative Recommendations for Second Phase in India. Washington, D.C.: Agency for International Development, 1969.

Project Report: Science Education Improvement Project, U.S.A.I.D. Washington, D.C.: United States Agency for International Development, 1969.

Report of Extension Services. Bikaner: Government Training College, Rajasthan.

Report of the Educational Commission (1964-66): Education and National Development. New Delhi: Ministry of Education, Government of India, 1966.

Report of the Study by the International Team, The Ford Foundation. New Delhi: The Ford Foundation, 1954.

Report on Career, Conference and Exhibition held at Bikaner. Bikaner: The State Bureau of Educational and Vocational Guidance, Rajasthan, Government Printing Press, 1966.

Report on the Work Done in the Field of Evaluation and Other Reforms. Ajmer: The Board of Secondary Education, Rajasthan, 1968.

"Scheme of Comprehensive Internal Assessment." The Board of Secondary Education Rajasthan. New Delhi: Department of Curriculum and Evaluation, N.C.E.R.T., 1968. (Mimeographed.)

Second All-India Educational Survey. New Delhi: National Council for Educational Research and Training, 1967.

Wadia, Khorshed A. "Guidance Movement in India." Guidance Services Series, No. 4. New Delhi: National Council for Educational Research and Training, 1966.

White Paper: Draft. Bikaner: Department of Education, Government of Rajasthan, 1968.

Newspapers

"Failure Means National Wastage." Enlite, August 31, 1968, p. 11.

Goon, Atindra Mohan. "Changing Our Examination System." Now, October 17, 1969, p. 43.

"Indo-U.S. Bid to Boost Standards." Enlite, August 2, 1969, p. 10.

"Misplaced Zeal." Times of India, October 15, 1968, p. 8.

Personal Interviews

Aiya, V. Director, National Council of Educational Research and Training, New Delhi.

Bordia, Anil. Collector, Ajmer District, Rajasthan and formerly the Director, Primary and Secondary Education, Rajasthan, Bikaner.

Bordia, K. L. Chairman, Board of Secondary Education, Rajasthan, Ajmer.

Das, R. C. Principal, Regional College of Education, Ajmer.

Das, S. R. Principal, Mayo College, Ajmer.

Datta, S. (Miss). Vice Principal, Central Institute of Education, New Delhi.

David, S. D. (Miss). Headmistress, Mission Girls Secondary School, Ajmer.

Gupta, Bharat Bhushan. Inspector of Schools, Ajmer District, Ajmer.

Jain, K. C. Academic Officer, The Board of Secondary Education, Rajasthan, Ajmer.

Kashyap, M. L. Deputy Educational Advisor, Government of India, New Delhi.

Mathur, V. B. Lal. Co-ordinator Extension Services Department, Government Teachers Training College, Bikaner, Rajasthan.

Mehta, C. S. Senior Inspector, Department of Education, Rajasthan, Bikaner.

Mehta, J. S. Secretary, Ministry of Education, Government of Rajasthan, Jaipur, and formerly the Director of Primary and Secondary Education, Rajasthan, Bikaner.

Mukerji, S. N. Principal, Vidhya Bhawan Teachers Training College, Udaipur, Rajasthan.

Rozario, V. E. D. Headmaster, Government Multipurpose Higher Secondary School, Saradhara, Ajmer.

Sharma, Mali Ram. Headmaster, Sadul Multipurpose Higher Secondary School, Bikaner.

Sharma, R. C. Principal, Demonstration Regional Higher Secondary School, Ajmer.

Singh, R. P. Reader, Comparative Education, National Institute of Educational Research and Training, New Delhi.

Tripathi, B. D. Principal, Government Teachers Training College, Ajmer.

Letters

Smith, R. Grant. Officer, India Desk, Department of State, Washington, D.C.

Waffle, Wilbur M. Education Officer, Bureau of Near East and South Asia, Department of State A.I.D. Washington, D.C.

Other Sources

Desai, Madhuri. "Proposed Plan for Secondary Schools in India." Unpublished Master's Thesis, San Francisco State College, San Francisco, 1957.

Donald, Shalini Salve. "Some Proposals for Changing Secondary Education in India to Promote Democracy." Unpublished Master's Thesis, The Ohio State University, Columbus, 1954.

Rev. Fernando, Singarayer. "A Comparative Study of Secondary Education in India and the United States of America." Unpublished Master's Thesis, DePaul University, Chicago, Illinois, 1956.

Negi, Laxmi Singh. "Teaching for International Understanding Between India and the United States." Unpublished Master of Science in Education Thesis, The University of Southern California, 1952.

Singh, R. P. "Secondary Education and the Education Commission 1964-66." Unpublished paper. Reader, Comparative Education National Institute of Education, Delhi, 1970.

Desnavi, S. S. "The Neighborhood School." General Education Quarterly, III, No. 4 (September, 1968), 1-5.

"Effects of PL U80 Funds on Indian Economy." Indian and Foreign Review, VI, No. 16 (June 1, 1969), 5.

Krassowski, Andrzej. "Principles of American Aid." Indian and Foreign Review, V, No. 24 (October 1, 1968), 16-18.

Nag Chaudhuri, B. D. "Changing Horizon Education in India." Indian and Foreign Review, V, No. 22 (September 1, 1968), 13 and 16.

Sharma, A. P. "Indo-U.S. Relations (1947-69)." Journal of Historical Research, XI, No. 2 (January, 1969), 71-80.

Shukla, P. D. "Improvement in Secondary Education." Indian Education, IV, No. 3 (February, 1965), 17-28.

APPENDIX

A sample of questions asked to various authorities:

1. What aspect of secondary education have been changed since independence?

2. What foreign influences do you see on the secondary education of the country, and in what direction is this development leaning?

3. How good are the present transplanted practices for Indian youth and society?

4. What further improvements are feasible in secondary education especially in the fields of curriculum, teaching methods, testing and evaluation, and teacher education?

5. Is the reorganized secondary school more beneficial than the traditional ten year high school?

6. What ought to be the aims and purposes of secondary education, and how far have we been successful in achieving them?

7. What are the major handicaps in bringing quality education into our secondary schools?

Various supplementary questions were asked at the spot to clarify different points, including unclear views.