

# MODERN STUDENT POPULATIONS ARE DIVERSE IN TERMS OF EDUCATIONAL, SOCIAL AND ECONOMIC BACKGROUNDS: A MATHEMATICAL REVIEW

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## Abstract

Many ideas were introduced into the educational system by the National Education Policy 1986 (NEP 1986). These ideas served as the foundation for the system's growth. The decision-makers had done extensive subject-matter research and shown their significance. The NEP from 1986 looked into the value of teaching mathematics. The National Education Policy of 1986 states that mathematics should be taught as a means of teaching children to reason, think critically, analyze, and speak coherently. In addition to being a distinct subject, it need to be viewed as an adjunct to any topic requiring reasoning and analysis. The introduction of computers into classrooms, educational computing, and the rise of learning via the comprehension of cause-and-effect linkages and the interaction of variables will all contribute to the appropriate reform of mathematics education to bring it into compliance with contemporary technology.

## Paper Identification



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## Introduction

An effective communicative strategy was needed to spread the knowledge of mathematics in order to foster unique and creative thinking as well as practical experience with mathematical ideas, assumptions, assertions, and laws. The needs of higher education can no longer be satisfied by traditional teaching techniques. Because the educational, social, and economic backgrounds of today's student populations are so diverse, numerous teaching pedagogies are required to meet the needs of each student's unique learning style. These many learning styles inspire creative thinking. If the students are given the opportunity to apply these concepts in new contexts, it is required of them to do so. Students simple repetition

of activities, whether manual or intellectual, is unlikely to result in better skills, sharper insights, or the development of such original ideas. Memorization of mathematical concepts results from merely practicing solving predictable exercises or implausible "word problems." Students should be allowed and encouraged to practice critical thinking, information analysis, scientific communication, logical argumentation, teamwork, and other desired abilities repeatedly in a variety of circumstances. Learning frequently occurs most effectively when students are given the chance to voice their opinions and receive criticism from their peers. However, right responses alone won't be enough to provide feedback to students as beneficial as it might be. Students should get insightful, provocative, and analytical feedback when it's relevant to them. It is important to note that most exams, especially finals, fail to provide students with enough time to consider the criticism they receive, make necessary revisions, and try again. Therefore, it is imperative that math teachers have a sound plan and a solid basis.

- i. Mathematics instruction should help children build upon the information and abilities they gained in the primary school.
- ii. A youngster with integrated mathematical knowledge should be able to solve difficulties in real life by growing in their capacity for analysis, reasoning, and seeing connections between ideas.
- iii. To become proficient in logical expression.
- iv. To acquire the abilities required to use contemporary technology, including computers and calculators.
- v. To foster an awareness of mathematics' exquisite structures, patterns, and other features, as well as its use as a tool for problem-solving in a variety of professions.

### **The Communication Concept and its usefulness in research**

Effective communication is a crucial component of success in all modern endeavors. It might be verbal, written, illustrated, or visual. Communication is defined as "the act of Transmitting Information, ideas, and attitudes from one person to another". A communication's major dimensions are as follows: (i) content, or the things that are communicated; (ii) source; (iii) sender or encoder, or by whom; (iv) form, or the things in which form; (v) channel, or the media through which it is transmitted; (vi) destination; (vii) receiver, target, or decoder, or to whom it is addressed; and (viii) the pragmatic aspect or goal. The providing, receiving, or exchanging of information, views, or ideas by writing, voice, visual methods, or any combination of the three in order for the content transmitted to be fully understood by all parties involved, is described as communication. The variables influencing communication include the recipient, the relationship between the sender and the recipient, formality, and appropriateness. Anyone who receives a message or is communicated with via a message is referred to as the receiver. When selecting the communication medium, keep the recipient in mind. The type of communication will depend on the sender-receiver connection, which is highly significant. Confidentiality, expense, and speed are a few more variables that affect the choice of communication channels.

### **Oral Communication**

Word-of-mouth is how oral communication is transmitted. When two or more people get together and converse, it can be direct; when a phone is used, it can be distant. "Oral communication" refers to both of these formats rather than "verbal communication." Verbal communication, which encompasses both written and spoken communication, is defined as communication that is done via words. Informal conversations, interviews, phone calls, group meetings,

and presentations are examples of this type of communication.

### **Written Communication**

Written communication is any communication that is done so in writing. Examples of this type of communication include letters, reports, articles, and notes. With the development of information technology, certain new electronic forms of textual communication are now possible. Telex, electronic mail, fax, and telex are a few of them.

### **Visual Communication**

Visual images, such as drawings, photos, and pictures, may be used to communicate. In many situations, they will be more powerful than any quantity of words. A bigger and bigger role is being played by computers, televisions, and videos in instructional communication. Visual communication also includes the usage of liquid crystal displays and overhead projectors with computers.

To conduct a research study, a variety of research methodologies are available. Of these, the four that follow are often employed.

The Approach of History

Using a Descriptive Approach

The Method of Experimentation

The Method of Quasi-Experimentation

### **Methods of Historical Research**

As the name suggests, historical research is inquiry into the past. In order to find generalizations and deductions that can be helpful in understanding the past, present, and, to a limited extent, the future, this type of research includes, for example, studies such as the recording, analysis, and interpretation of historical events (Landman 1988: 65). The researcher using this research approach has to get the original historical events and comprehend the events that have been documented. As a result, the researcher depends on the historical documentation sources being available. The

historical research approach is often reserved for studies pertaining to the origins, evolution, and impact of communism, democracy, capitalism, etc. It is not typically employed in fields involving the verification of findings. The research study at hand, in its whole, lacks any previously conducted research as well as any documented materials on which to base the research. Thus, the researcher did not employ the historical research methodology.

### **Using a Descriptive Approach**

The definition of descriptive is obvious. A research study continued to write about, illustrate, and describe the facts and happenings. Descriptive research aims to clarify the current situation by verifying assumptions that have been formed about it. Accordingly, the main goal of descriptive research is to describe the specifics of the current situation, including its nature, circumstances, and degree of detail (Landman 1988: 59). Instead than passing judgment or offering explanations, the focus is on describing. Researchers that use this approach for their study often have two goals in mind, according to Klopper (1990: 64):

- (1) demarcating the population by precisely perceiving research characteristics; and
- (2) recording in the form of a written report that which has been perceived.

### **Conclusion**

Process of Evaluation and Assessment techniques being prescribed could be changed to a different format such as making rubrics for positive interdependence, group investigation skills etc., so that; academic performance of students could be improved along with social skills and peer interaction. Teaching through computers shall be introduced in the Basic teaching degree pursuit. All the pre-service teachers get ample exposure in using embedded atmosphere to teach mathematics. Addition human resources with mathematics background could be given for



mathematics laboratory so as to enable the students to use the laboratory not only during their allotted periods, but also during leisure periods. The study examined academic performance of students in Mathematics. Further studies be conducted to investigate the effectiveness of the strategy for other dependent variables such as attitude towards the subject, self esteem, peer relations, social skills, retention and gender equity as well. The strategy developed for mathematics teaching is consisting of expository method, Cooperative Learning method and Problem solving method. So, studies be conducted to investigate the effectiveness of the strategy on students' academic performance, in isolation of any of the methods that is part of the strategy evolved.

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