Chapter – III: Research Methodology

Chapter 3: Research Methodology

3.1 Introduction

This chapter outlines the methodology adopted for conducting the study titled "Role of Migration Program on the Academic Performance of Students of Jawahar Navodaya Vidyalaya" It presents the research design, procedures for data collection, tools used, and methods of data analysis. Research methodology refers to the systematic approach used for identifying, selecting, organizing, and analyzing information relevant to the research problem.

The purpose of this chapter is to enable the reader to understand how the study was conducted, assess the credibility of its findings, and determine the extent to which they can be generalized. It addresses two fundamental questions: When and how was the data collected? and How was it analyzed? By explaining the procedures followed in the research, this chapter ensures transparency and reliability in the investigation process.

The study was conducted using data collected from four Jawahar Navodaya Vidyalayas located in the districts of Betul, Dewas, Raisen, and Shajapur in Madhya Pradesh. The academic records of Class IX students from the 2023–24 academic sessions were analyzed, focusing on both migrated and non-migrated students. The research aimed to explore the academic differences and challenges faced due to the internal migration policy implemented by the NVS system. The findings of this chapter are expected to contribute to a deeper understanding of how migration impacts academic outcomes in residential school settings.

3.1.1 Origin of the Study

The genesis of this research stems from a critical need to explore the academic implications of internal student migration within India's unique residential schooling framework—Jawahar Navodaya Vidyalayas (JNVs). These centrally funded schools under the Navodaya Vidyalaya Samiti (NVS) are renowned for providing quality education to talented children predominantly from rural areas, irrespective of their socio-economic status. A defining feature of JNVs is their inter-regional migration scheme introduced to foster national integration and cultural exchange among students across different linguistic and cultural zones (Saran, 2004; NCERT, 2012).

While the educational and integrative objectives of this migration policy are well-documented, there is a significant gap in empirical research examining how such internal migration affects the academic performance of students—especially in the transition year of Class IX, when the migration takes place. This gap became increasingly evident during the researcher's preliminary literature review, which involved examining academic journals, reports by the National Council of Educational Research and Training (NCERT), the Ministry of Education, and various university repositories.

Studies such as those by Singh & Mehra (2015) and Kumar (2018) indicated that while migration in JNVs promotes diversity and intercultural understanding, migrated students often face challenges such as language barriers, emotional adjustment, and curriculum transition—all of which could influence their academic outcomes. However, these studies are limited in number, and few have quantitatively compared the performance of migrated versus non-migrated students using concrete data.

Motivated by these insights, the researcher decided to undertake a comparative study on the academic performance of migrated and non-migrated Class IX students in JNVs. The study focuses on four districts of Madhya Pradesh—Betul, Dewas, Raisen, and Shajapur—where data for the academic session 2023–24 was collected.

In essence, the study emerged from the dual concern of understanding educational equity in residential schooling and contributing to evidence-based policymaking on student migration in India. It seeks to bridge the gap between the intended integrative outcomes of migration policies and the actual academic realities faced by students in this transformative educational setting.

3.2 Research Design

The present study adopts a quantitative, quasi-experimental comparative research design to investigate the role of the migration program in Jawahar Navodaya Vidyalayas (JNVs) on students' academic performance. The design does not involve manipulation of any variables. Instead, it utilizes already available academic records for comparative analysis across three different research objectives.

The study employs ex post facto and non-equivalent group comparison designs, as it relies on historical data and compares groups that were not randomly assigned.

3.3 Variables of the Study

1. Independent Variables:

- Migration status (migrated vs. non-migrated)
- Gender (male vs. female)

2. Dependent Variable:

- Academic performance (based on and IX scores)

3. Intervening Variables:

- Socio-economic background, emotional adjustment, cultural differences, peer influence, language barriers, etc.

4. Controlled Variables:

- Curriculum, class level (Grade IX), academic year, examination standards (JNV pattern)

5. Uncontrolled Variables:

- Prior academic support, parental involvement, personal motivation, regional disparities

3.4 Population

The population for the study includes ninth-grade students of Jawahar Navodaya Vidyalayas (JNVs) across India, specifically those involved in the national migration program at the secondary level (Class IX) along with students who stayed in original JNVs.

3.5 Sample

For the purpose of this study, a purposive sampling technique was employed. The researcher firstly selected four Jawahar Navodaya Vidyalaya of Madhya Pradesh—Betul, Dewas, Raisen, and Shajapur and collected data of the students who had undergone migration under the official JNV migration program as well as a comparable group of non-migrated students.

Two groups were formed:

- Migrated Group: Students who had shifted to a different linguistic region as part of the JNV migration policy.
- Non-Migrated Group: Students who continued their education in their original JNV.

Since random assignment was not possible, intact classes or naturally existing groups were used.

3.5.1 Sample Size

The researcher purposively selected 160 students from collected data of the ninth grade students from four JNVs. Of these, 80 students were migrated students and 80 students were non-migrated students. Therefore, the total sample size for this study was 160 students.

- 80 Migrated students (students who migrated to another JNV as per the migration policy)
- 80 Non-Migrated students (students who remained in their home JNV)

Table 1: Group-wise Distribution of Sample

GROUP	BOYS	GIRLS	TOTAL
Migrated students	49	31	80
Non-Migrated students	57	23	80

3.6 Tool Used for Data Collection

In this study, no standardized testing instrument or research tool such as a questionnaire or interview schedule was developed or administered by the researcher. Instead, the students' academic performance records served as the primary source of data. The official school-maintained academic result sheets were used as the tool to gather necessary quantitative data regarding students' academic scores.

Tool: School Academic Record Sheets

Nature: Secondary source, quantitative in nature

Type of Data: Examination scores (Class VIII and IX results)

These records are considered reliable and valid for educational research purposes as they are formally documented, standardized across all Jawahar Navodaya Vidyalayas (JNVs), and reflect students' real-time performance.

3.7 Method of Data Collection

The researcher went to the selected schools and met with the concerned authority for permission. After explaining the purpose behind the study, permission was granted. Then the data for this study was collected through the official academic records provided by respective Jawahar Navodaya Vidyalayas. Initially, the researcher obtained class-wise academic results of students. After acquiring the raw data, it was systematically categorized according to the specific needs of the research objectives. This included organizing data based on migration status (migrated and non-migrated students), academic performance before and after migration, and gender-wise segmentation, ensuring a structured framework for objective-based analysis.

Type of Data: Secondary data

Collection Source: School result records

Mode of Access: Through formal communication with school administration and documentation

Time Period Covered: Academic years relevant to Class VIII (2022-23) and IX (2023-24).

3.8 Data Analysis

The data analysis process was carefully structured to meet the core objectives of the study and to meaningfully compare the academic performance of migrated and non-migrated students in Jawahar Navodaya Vidyalayas (JNVs). A combination of descriptive and inferential statistical techniques was applied to provide both an overview and in-depth understanding of the academic outcomes across different groups.

Descriptive Statistics served as the initial step in the analysis. It helped summarize the academic scores of students in a clear and organized manner. Measures such as mean, standard deviation and variance were used to understand central tendencies and the

spread of scores among both migrated and non-migrated students. This offered a general picture of academic performance levels, making it easier to compare baseline characteristics and trends between groups.

Inferential Statistics were then used to explore differences and relationships among the study groups in greater depth.

For Objective 1, a paired sample z-test was used to compare academic performance before and after migration among the same group of 80 migrated students.

For Objective 2, a z-test for independent samples was applied to compare the academic outcomes of 80 migrated students with 80 non-migrated students, following a non-equivalent group comparison design.

For Objective 3, an independent samples t-test (two-tailed) was used to analyze whether there was a statistically significant difference in academic performance between 30 migrated boys and 30 migrated girls.