

# Report: Week 1

## **Indian Education System**

Brainstorming, Defining, and Understanding System Boundary

DEP 302: System Design project

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# Abstract

In an attempt to understand the mechanisms involved within a system and to find possible areas to intervene, we take a look at the Indian Education System. We examine the evolution of the system in the country, break it down to analyze the different parts and subparts. We also look at the various stakeholders involved, the decisions they have to make, and the current policies and scenarios influencing these decisions.

## Indian Education System: Introduction

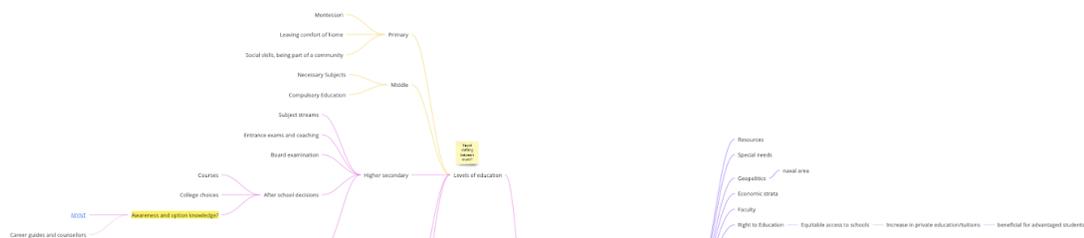
The Indian Education System is a vast mechanism that is influenced by and, in turn, influences the different socio-cultural, economic, and political scenarios Indian citizens hail from. It is responsible for molding the next generation and preparing them for their future.

It is this system and its intricacies that we are attempting to understand and hope to find solutions to some of the issues it faces.

## Mapping out the entire system

We started with mapping out the system, jotting down what came to our minds when we thought of education in India. This was influenced by our own experiences as students and stories we'd heard from other fellow students. This was then complemented by further secondary research, after which we broke it down into a few parts that we were most interested in.

1. Levels of education
2. Access to education
3. Varying importance of subjects
4. India specific issues
5. Social responsibility
6. Different boards
7. Interpersonal relationships
8. Alternate learning methods
9. Stakeholders
10. Mental health



# Narrowing down the topic: Secondary Education

After analysis of the system as a whole and keeping in mind our capabilities and knowledge, we decided to narrow it down to Secondary Education in India. Our familiarity and not-so-old experiences with the subject matter made it a clear choice to further work with.

Secondary Education, from grades 9th to 12th and its equivalents, is a period of sharp transition from “fun” learning to responsibilities, “life-changing” decisions, high stakes, and heavy workload. For most of the students, this is the period they decide or are told to choose a particular subject stream, the beginning of their career paths. This is when examinations are really important, and their performance is crucial for smooth sailing in their future.

We found that a period of such importance in education would be justified to be analyzed as the multitudes of complexities and complications it poses is a challenge worth taking on.

## Breaking down Secondary Education

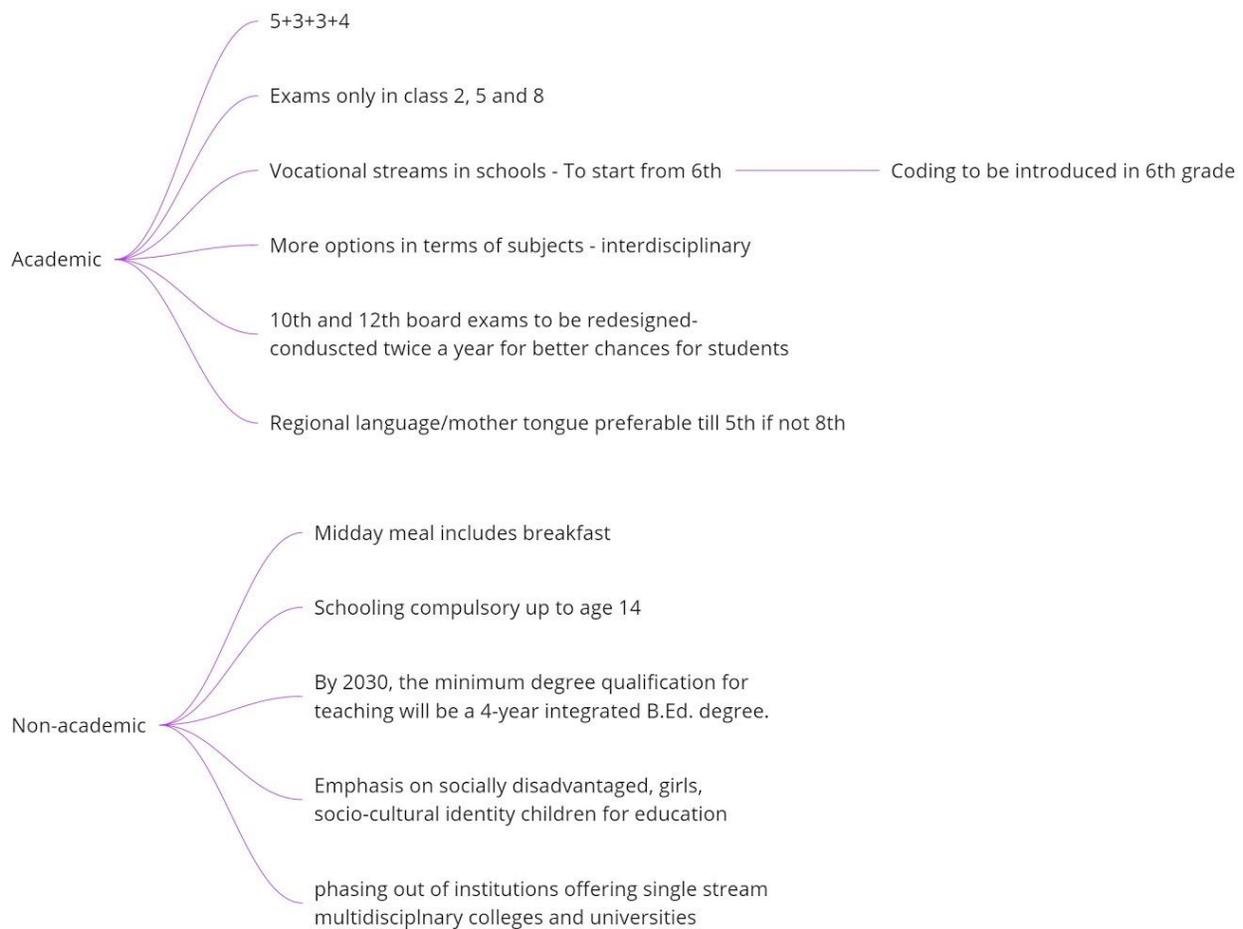
### a. Evolution

#### i. **NEP 2020**

The National Education Policy 2020 (NEP 2020), which was approved by the Union Cabinet of India on 29 July 2020, outlines the vision of India's new education system. The new policy replaces the previous National Policy on Education, 1986. The policy is a comprehensive framework for elementary education to higher education as well as vocational training in both rural and urban India.

It focuses on systemic changes, subject diversity, and vocational studies. It recommends teaching regional languages/ mother tongue without forcing it. Special teacher training and new qualification benchmark is also part of the policy along with changes in the pedagogy. Most importantly, it proposes increasing accessibility of education, with a key goal of 100% GER (Gross Enrollment Ratio) by 2030.

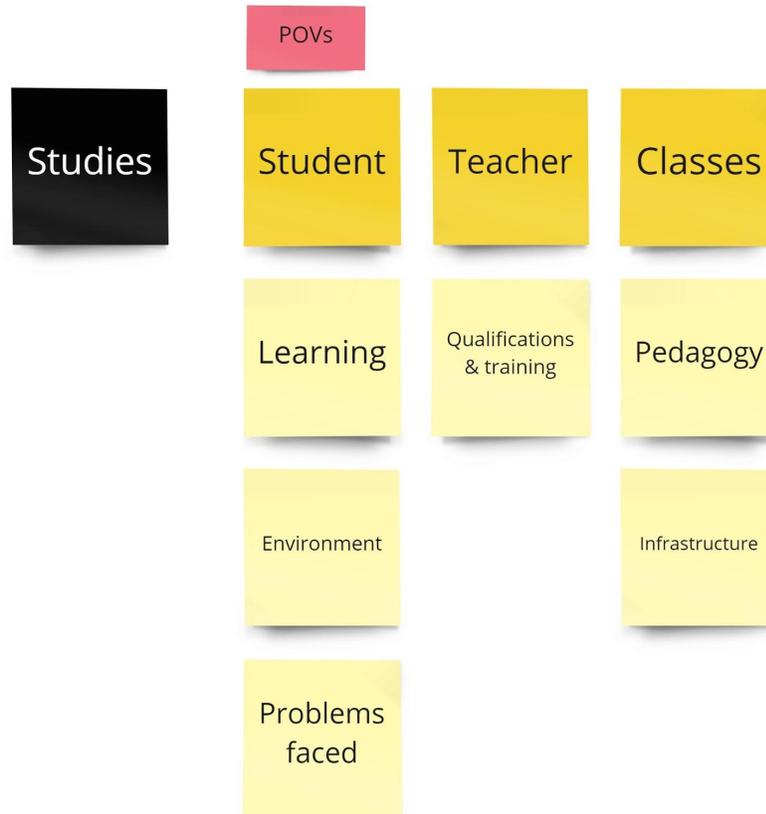
## NEP 2020 points relevant to Secondary Education



### b. Studies

This section covers the primary period of Secondary Education, viewed from three perspectives; students, teachers, and classes. We break down what is being taught and how learning happens, the environment for studies, infrastructure, etc.

Along with looking at the pedagogy and subject matters, the challenges faced by the students ranging from pressure and mental stress to socio-economic factors are also analyzed.



## c. Decisions

### i. Pre-secondary

Secondary education brings along with it the need to make certain important decisions. Following are some of the key decisions that need to be taken:

- Streams:

According to the current system, students are required to pick a stream. Indians have generally shown an inclination towards the science streams and quite often, a variety of commerce and humanities courses aren't made available in schools.

It is interesting to consider why this happens. One reason we've all heard growing up is that science is a "safer" option, especially if one isn't too sure of how they want to proceed after schooling, as it gives students more options to diversify into. In short, it is considered easier to change from science into any other subject than vice versa.

Another major factor behind students choosing the field of science is parental pressure because parents believe that engineering as a field is a

higher paying profession than the rest of the streams available to students.

We also wondered if it could be that the kind of objective backing that can be gained through a science-oriented education has more appeal (for Indians) over, say, a more creative field, especially in the long run considering how discriminating the job markets can get.

- Boards

There are a multitude of boards of education in India, ranging from CBSE to ICSE to state boards to Cambridge curriculum to IB. While CBSE, ICSE, and the state boards are helpful when it comes to entrance exams like JEE, NEET, etc, international boards are more suited for applying to colleges abroad. The issue of affordability was also looked into and the fact that international boards weren't as affordable was noted.

- Coaching

Another important decision Indian students make is that of coaching institutes. With entrance exams getting notoriously difficult, most students enroll in coaching institutes to aid the process. This requires them to decide what field they'd like to pursue, how intensive they'd want the coaching process to be, concerns of relocation and balancing extracurriculars, so on and so forth

ii. Post-schooling

- Exams

Along with the mandatory board exams, students also attempt a multitude of entrance exams, olympiads, and scholarship exams.

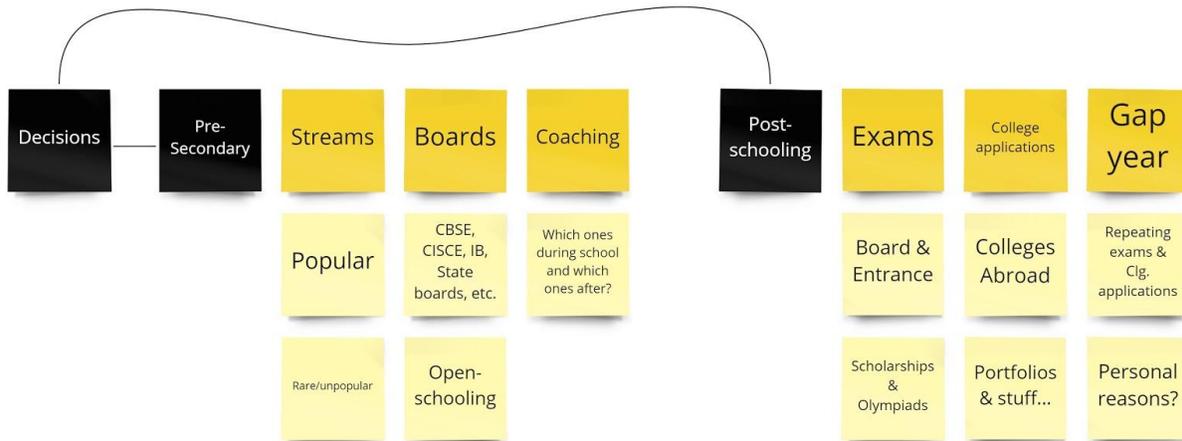
- College applications

The college application process varies in the Indian and International context. Admission to Indian colleges and universities is often through exams whereas international college applications involve essays and interviews.

- Gap year

Another key area of interest to us was the concept of gap year. Currently, the most popular reason to take a gap year is to repeat (re-attempt) exams. However, the notion of taking a gap year to make a more

informed decision about careers seems interesting. Students could try apprenticing during this time and if needed, look into financing their college education. (However, how this might fit into an Indian setting needs further research) We also looked into deferring admissions as it might help students to take a break after the grueling schooling process.



#### d. Stakeholders

##### i. Students

Students are, undoubtedly, the most important stakeholders in this system. We took a look at what their aspirations might be and the challenges they might face in realizing those. We also tried to understand what divides these students have, be it socio-cultural backgrounds, economic status, gender, disabilities they face, and how these affect their interpersonal relations.

##### ii. Parents

Parents and their outlook towards the concept of education tend to play a very important role. Their educational backgrounds also determine the kind of support they can provide. Various familial limitations also come into play, with finances not being the least of them.

##### iii. Teachers

The qualifications of teachers and their training is something that is given much importance, but the availability of quality educators, especially for the rarer subjects with socio-geographical constraints is a noticeable threat pertaining to

India. Lesser discussed issues like personal biases towards students or their ignorance towards teaching are actually more important concerns to attend to.

iv. Administration

School administrators are required to deal with matters concerning funding and infrastructure. They also play an important role in determining the kind of ideology a certain school might aim to follow. Understanding what incentivises them to provide quality education is also a key to understanding the system better.

v. Policymakers/ government

Policymakers help provide structural guidelines to aid the process of education. They also make decisions related to the extent of privatization and centralization of education. They also affect politics which tends to shape the way education is provided and the restraints it can lead to. For example, political turmoil caused by Naxalites has led to worsened conditions in those areas.

Policymakers are also responsible for trying to come up with solutions to increase enrollment and encourage students to stay in school through affirmative actions such as schemes for single girl children, midday meal schemes, etc.

vi. Institutes offering higher education

Colleges and universities also are stakeholders in the process of education. What they expect from students is often reflected in their admission procedures which takes us back to coaching, entrance exams, and college applications.

vii. Job market

All of the education boils down to creating citizens who are part of and contribute to society. This is the biggest incentive as well as fear for students and parents, and this is mostly the reason that motivates the people of India to make certain decisions. Looking at how the job market behaviour is and what expectations either party has for each other is gonna help us understand its limitations as well as gives an insight into understanding the attitudes of various other stakeholders. We thought that some experimental concepts like highschool internships are also interesting to consider under this section.



## Next Steps

- 1. Looking into the possible challenges of NEP**  
 Looking into all the criticism, the media has lobbied towards NEP, trying to find faults with the system and exploring them further to expand the critical problems that can arise and trying to mitigate them.
- 2. Link common recurring themes**  
 Trying to map out as many topics as possible and find concurrent themes with them to create a holistic map
- 3. Define system boundaries better**  
 Focus down on certain points and define boundaries to be less wide
- 4. Defining these focus points in more depth**  
 Allow our team to narrow down and tackle the topics we feel relates to our experience as much as possible

- a. Career and subject awareness; Allow students to understand the depths of as many fields as possible
- b. Mental health; Mitigate scenarios of pressures students deal with
- c. Stakeholders and their attitudes; Improve attitudes of stakeholders towards different streams
- d. Accessibility: Improve accessibility for both urban and rural are students
- e. Socio-cultural inclusivity: Try to mitigate the problems faced by students in an Indian scenario: language barriers and political issues faced by Indian students