



# GUIDE TO BEING LIMITLESS

**CLASS 8**

« **THE OXFORD SCHOOL**  
JHIRI, BURHANPUR (M.P)



# EDUCATION

## THEN v/s NOW

**Exam-Centric Model,**  
prioritizing high scores and  
rote memorization.

**Dependent on school  
timetable;** learning often stops  
after the final exam.

**Limited opportunities,** leading  
to high stage fear and  
interview nervousness after  
Class 12.

**Confidence tied to marks;**  
often hesitant to interact with  
"big personalities.

**Skill-Centric Model,**  
prioritizing essential life skills:  
Leadership, Time  
Management, and Problem  
Solving.

**Cultivating a "Life-Long  
Learning Habit" and  
commitment to "daily self-  
upgrade until the last breath."**

**Introduction of the VR  
(Virtual Reality) Lab**  
(Currently in Progress) to  
provide high-stakes practice,  
eliminating fear and building  
the quality of a Great Speaker.

**Confidence built on content  
and effective communication,**  
allowing students to hold  
**discussions with national  
leaders without fear.**



# VISION

The Oxford School envisions a generation of fearless pioneers defined not by their degrees, but by their intrinsic drive for perpetual growth and contribution. Our ultimate aspiration is to cultivate the Life-Long Learning Habit in every student, ensuring they are perpetually equipped to "daily upgrade themselves until their final breath." We aim to forge citizens of profound self-worth and confidence, empowering every child to achieve the quality of a Great Speaker ready to lead dialogues, execute innovative ideas brilliantly, and shape the nation's future with clarity and conviction.

# MISSION

Our Mission is to revolutionize education by establishing a Skills-Centric Pedagogical Model, moving definitively away from exam-only dependency. We are dedicated to the holistic development of essential competencies: Leadership, Effective Communication, Strategic Problem Solving, and Time Management. We achieve this through a rigorous curriculum that integrates UPSC/Competitive Exam Standards from Class VI, driven by the daily reading of articles and editorials. Recognizing that the ability to speak and present is the most powerful lever for lifelong success, we commit to leveraging cutting-edge tools, such as the new VR Public Speaking Lab. This builds unmatched confidence that ensures students can excel—from academic achievements and career success to ultimately influencing the next generation. We prepare students for every challenge life offers, ensuring their voice is always heard and respected.

# THE PATH WE FOLLOW

Instilling the practice of reading 365 days, articles and editorials to build a rich content base across all subjects. You cannot change your future, but you can change your habits, and surely your habits will change your future.

# DEFINING THE PATH:

## THE ROAD AHEAD



**DIRECTOR**

**Mr. Mayank Kamrani**

“

The Oxford School, Burhanpur, is built upon a profound and enduring philosophy: Future success is not determined by a single examination, but by the habits cultivated daily. Our vision extends far beyond achieving high scores; it is about forging individuals who are continuously self-improving, confident, and committed to "daily self-upgrade until their last breath."

”



**PRINCIPAL**

**Mrs. Shilpa Jadwani**

“

We recognize a critical gap in conventional schooling: while students master written exams after 15 years of practice, they often falter in high-stakes personal interactions, such as college entrance interviews. This nervousness stems from a lack of practice and, crucially, content. When they go on vacation, they engage their families in discussions about current events and policies, demonstrating a well-rounded awareness that elevates their thinking and confidence. Our students are not just studying; they are becoming informed thinkers.

”



## 2025 NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE

The **2025 Nobel Prize in Physiology or Medicine** went to **Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi**. Their work **redefined our understanding of the immune system** especially how the body prevents autoimmunity (when the immune system attacks the body's own cells).

### The Problem Before Their Discovery

Before the **1990s**, scientists already knew that:

- T-cells are white blood cells that defend the body against infections.
- During their formation, self-reactive T-cells (those attacking the body) were deleted in the thymus (called \*central tolerance\*).

**But** — this did not fully explain why:

- Some autoreactive T-cells still escaped this deletion.
- Yet most people don't develop autoimmunity.

So, there had to be another control mechanism working outside the thymus — in the body's "periphery".

### Shimon Sakaguchi's Breakthrough (1995)

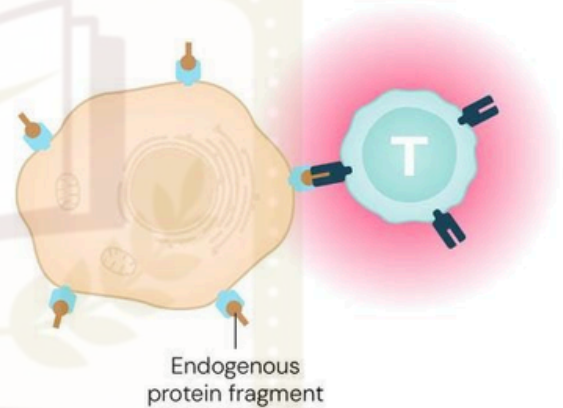
- Sakaguchi discovered a special subset of CD4<sup>+</sup> T-cells, later called **Regulatory T-cells (Tregs)**.
- When he removed these Tregs from mice, the animals developed multiple autoimmune diseases.

- When he restored these Tregs, the diseases disappeared.

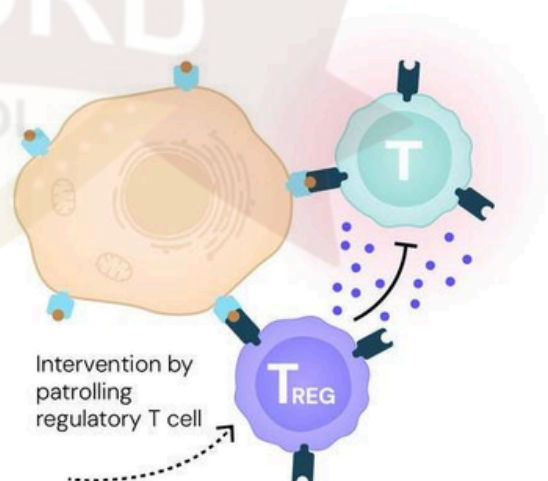
This proved that Tregs "suppress" harmful immune reactions and keep the system in balance.

### How Regulatory T-Cells Protects US

- 1** A T cell that has slipped through the test in the thymus reacts to a fragment from one of the body's proteins.



- 2** Regulatory T cells discover that the attack is a mistake and calm it down. This prevents autoimmune diseases.



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# Brunkow and Ramsdell's Applications in Modern Discovery — The FOXP3 Medicine Gene

Around the same time, **Mary Brunkow and Fred Ramsdell**, working in the private company **Celltech Chiroscience**, studied a strain of mice called **scurfy mice**.

These mice:

- Developed severe autoimmune diseases affecting multiple organs.
- Died within weeks of birth.

The scientists traced this to a mutation on the X chromosome, in a gene they named **FOXP3**.

**FOXP3** was found to be a master control gene — a transcription factor — that creates and maintains Tregs.

Later, doctors found that boys with **FOXP3** mutations suffered a lethal autoimmune disorder (**IPEX syndrome**) — confirming the gene's crucial role in immune tolerance.

**Together, these discoveries established that:**

The immune system's self-tolerance depends on a molecular switch (**FOXP3**) that controls regulatory T-cells.

## How This Changed Immunology

**Before:** The immune system was seen as a simple "on/off" machine — either active or inactive.

**After:** It is now understood as a dynamic ecosystem — constantly balancing attack vs. restraint through multiple layers of control.

This is a conceptual revolution — one of the reasons the Nobel Committee recognized their work.

**Their discovery paved the way for new therapeutic directions:**

### (A) Autoimmune Diseases

- Diseases: Type 1 diabetes, multiple sclerosis, rheumatoid arthritis, lupus.
- Strategy: Expand or stabilise Tregs to reduce inflammation and prevent tissue damage.
- Trials show: Boosting Tregs reduces harmful immunity without general immunosuppression.

### (B) Organ Transplantation

- Engineered Tregs are being infused into patients to prevent organ rejection.

### (C) Cancer

- Tumors often use Tregs to hide from immune attack.
- Researchers are trying to selectively block or reprogram Tregs near tumors to enhance anti-cancer immunity — without triggering autoimmunity.

## Broader Implications Ethics & Policy

Private sector research (Celltech Chiroscience) was crucial — shows how industry can contribute to fundamental science.

**Challenges remain:**

- Translating discoveries into safe, large-scale therapies.
- High costs of cell-based treatments create inequality in access.
- Raises ethical and policy issues — especially in low- and middle-income countries like India.



## QUICK REVISION POINTERS

CONCEPTS	KEY FACTS
Regulatory T-cells (Tregs)	Subset of CD4 <sup>+</sup> T-cells that suppress immune overreaction
FOXP3 gene	Transcription factor on X chromosome; master regulator of Treg development
Discoverers	Shimon Sakaguchi (Tregs), Mary Brunkow & Fred Ramsdell (FOXP3)
Scurfy mice	Animal model that helped identify FOXP3 mutation causing autoimmunity
Central vs Peripheral tolerance	Central = thymic deletion of self-reactive T-cells; Peripheral = regulation by Tregs
Applications	Autoimmunity, transplantation, cancer immunotherapy
Policy Issues	High cost, equity, access, translational barriers
Conceptual Impact	Immune system seen as <b>balanced ecosystem</b> , not on/off system

### Summary in One Line

The 2025 Nobel Prize winners redefined immunity by discovering how Regulatory T-cells and the FOXP3 gene keep the body's immune system “**in check**”, preventing it from attacking itself — a finding now shaping therapies for autoimmunity, transplantation, and cancer.



: Shimon Sakaguchi

# Difference Between

## Article

1. Provides detailed information on a subject.
2. Mostly neutral, based on facts, data, and research.
3. To inform or explain the reader.
4. Newspapers, magazines, websites, and journals.
5. Reporters, specialists, or professional writers.

## Editorial

1. Reflects the opinion of the editor/board.
2. Opinionated and comments on current events/issues.
3. To persuade, criticize, or suggest solutions.
4. Dedicated editorial page in a newspaper.
5. Editor or the editorial board.

## Newspaper

1. Delivers timely news and information.
2. Includes news, articles, editorials, and ads.
3. To help people stay updated (local/global).
4. Comprehensive publication with various sections.
5. Large team of reporters, editors, and designers.

### Academic Success

Excels in cluster and government competitions. Clear Presentation Mastery for high grades.



### Career Launchpad

Confidence in Entrance Exams, Interviews, and Competitive Exam communication sections.



### Leadership Growth

Motivating Teams; Negotiation; Creative Thinking & Effective Professional Writing (e.g., contributing to publications).



### Expertise & Legacy

Inspiring Vision; Strategic Communication, including thought-leadership articles for major papers (e.g., The Hindu, Times of India).



**THE OXFORD SCHOOL**

Naval Nagar, Jhiri, Burhanpur (M.P)

theoxford.burhanpur884@gmail.com

+91 9329898116 / +91 9243944355