

**Domain**

Education for the future

**Field**

System Design

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Design Thinking  
Group 6

# 01 THE CURRENT SYSTEM



## **Curriculum is redundant**

Our system still values discipline and a structured regimen under the teacher's discretion. It still teaches many of the same values, but with yesterday's methods.

## **The way we measure success**

Our education system has come to measure success with standardized tests. Not only do these tests dictate the curriculum, but also what is deemed important for each given level of education. Standardized tests do not take into account learner differences, out-of-the-box thinking, or the individual qualities, talents, and passions of students.

## **Books over practice**

Theoretical learning is what the knowledge is about and Practical learning is how the knowledge was learned. Practical work promotes experiential learning. Practical work encourages self-learning.

## **The Funding gap**

Education funding in India varies by state, as state governments determine what percentage of their budget should go toward education. Hence some of the students in poorly funded institutions perform poorly on standardized test compared to well funded institutions.

## **Cut throat competition**

Education in India has always been turned out to be competitive atleast at higher levels as a lot of children tend to give the same test without knowing any other alternative. On one hand it builds a competitive mindset but it also has a lot of ill effects.





## → LITERATURE REVIEW

We studied the penetration of the current education system in India over the years, the ratios of various stakeholders, to understand the retention rate and try and figure out lacunae we could target and fill with our solution, to be implemented some time in the near future.

(8-11)

(11-14)

(14-18)

**95%    69%    25%**

Primary

Secondary

Senior Secondary

Enrollment of students in schools

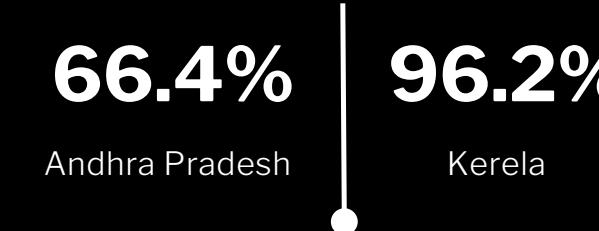
**77.7%**

India's literacy rate

**66.4%    96.2%**

Andhra Pradesh

Kerala



**45.15%    42.08%**

Primary

Secondary

Pupil to Teacher ratio

- [education.gov.in](http://education.gov.in)
- [tarang.org](http://tarang.org)

## 02 → WHAT DOES THE FUTURE LOOK LIKE?

We asked a group of 30 respondents a few open ended questions on the current state of the education system, and what they think the future of education will look like. The respondent group consisted of an equal number of school-going and university-level students, parents and teachers from eminent institutions across India.

**93%**

Believe the current system is rigid, and curtails true growth

**70%**

Believe the current balance of theoretical vs practical learning is insufficient

**23%**

Believe there's no difference in the education imparted at a private and public school

**93%**

believe formal school education teaches life skills along with imparting knowledge

**86%**

Believe education will be mostly digital and technology-based, especially after the pandemic.

**100%**

The number of student respondents who feel there is a lack of choice and personalisation

**vs**

**16%**

The number of parent respondents who feel there is a lack of choice and personalisation

- rounded off figures

# 03 INSIGHTS



A collection of quotes and implications from two user surveys and brief interviews. These served as an organic, real-life word-web, or a textual mood board of sorts. This helped us extract relevant topics to build what we needed to.

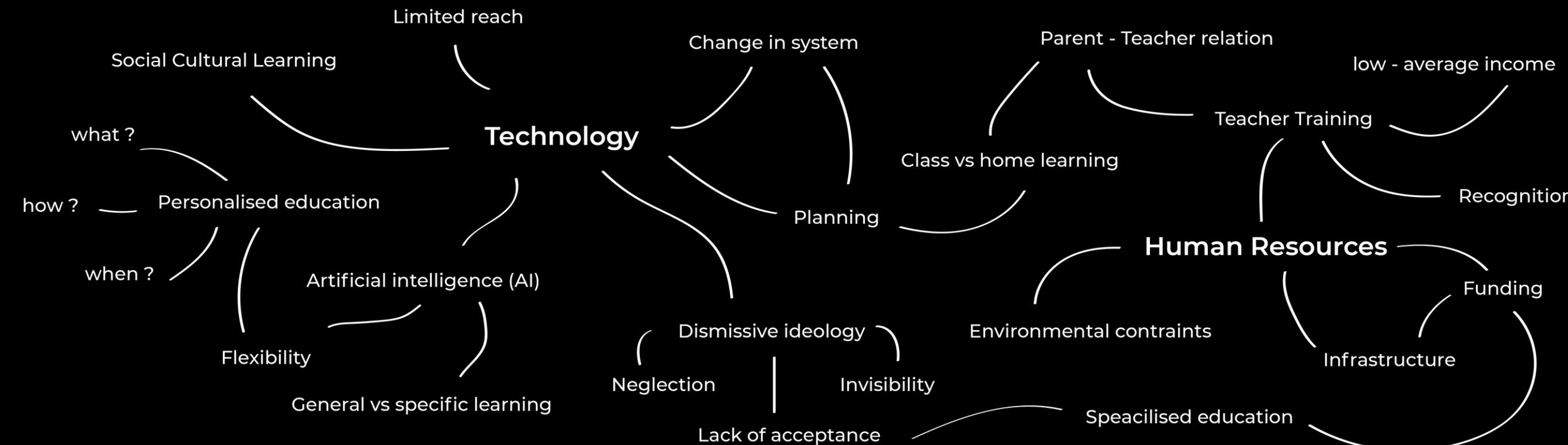
"Everything can't be digital. School teaches lessons for life, teaches you how to deal with people. The pandemic has already had a negative effect on my kid's social skills."

"I'm really scared of math. Yet I need to study it and bear the panic attack each exam gives me."

"CCE was a good idea. It failed because we're not ready as a society"

"Teachers may have experience but they find it hard to adapt to new technologies. "

"Teachers may have experience but they find it hard to adapt to new technologies. "



## 04 NATIONAL EDUCATION POLICY



The National Education Policy (2020) proposed by the central government was chosen as a realistic guideline to base the new system upon.

The NEP proposes sweeping changes including opening up of Indian higher education to foreign universities, dismantling of the UGC and the All India Council for Technical Education (AICTE), introduction of a four-year multidisciplinary undergraduate programme with multiple exit options, and discontinuation of the M.phil programme.

In school education, the policy focuses on overhauling the curriculum, "easier" Board exams, a reduction in the syllabus to retain "core essentials" and thrust on "experiential learning and critical thinking"

In a significant shift from the 1986 policy, which pushed for a 10+2 structure of school education, the new NEP pitches for a "5+3+3+4" design corresponding to the age groups 3-8 years (foundational stage), 8-11 (preparatory), 11-14 (middle), and 14-18 (secondary). This brings early childhood education (also known as pre-school education for children of ages 3 to 5) under the ambit of formal schooling. The mid-day meal programme will be extended to pre-school children. The NEP says students until Class 5 should be taught in their mother tongue or regional language.

The policy aims to bring about a radical change in current education system, to make learners more global. While it talks about pre-school, school and higher education systems, for the scope of the project we stuck with developing an alternative schooling system for the future, that aligns itself with the principles of the NEP.

# LEARNER-CENTERIC EDUCATION

Education systems right now are result or assessment centric, instead of being learner centric. This causes disparity in the amount of education one receives, as different learners with varying psychological and physiological needs learn differently. With a learner-centric system, we aim to bridge this gap and reduce the amount of disparity. While NEP brings out numerous points that'll prove beneficial if implemented properly, there are 4 principles that will have the biggest impact on the success of the policy, that we picked up and moulded our project around.

## Flexible

A system that's customizable and personalisable according to the interests and capabilities of each learner.

## Ever Evolving

A non stagnant system that reduces curriculum redundancy by evolving with the needs of the changing society.

## Vocational

Promote practical hands-on learning, learning by play to maximise the inculcation of knowledge imparted, to produce industry-ready human resources

## Digital

A system that makes the best of available and upcoming technology, to make learning from anywhere equally effective



**05**



## **GARDNER'S THEORY OF MULTIPLE INTELLIGENCES**

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The theory of multiple intelligences proposes the differentiation of human intelligence into specific “modalities of intelligence”, rather than defining intelligence as a single, general ability. There are eight primary intelligences as proposed by Howard Gardner

**01 Linguistic**

**02 Mathematical**

**03 Spatial**

**04 Musical**

**05 Kinesthetic**

**06 Naturalistic**

**07 Interpersonal**

**08 Intrapersonal**

# 06 → GOALS

Mission Statement

**Design an alternate, multi-media education system for the future.**

Key Principles

**Flexibility**

Courses  
Timings  
Medium of Instruction

**“Dirty hands”**

Practical Learning  
Collaborative  
Experimental

**Up to date**

With technology  
Non redundant  
Ever evolving

**Holistic**

Overall development  
Non theoretical  
Talent oriented





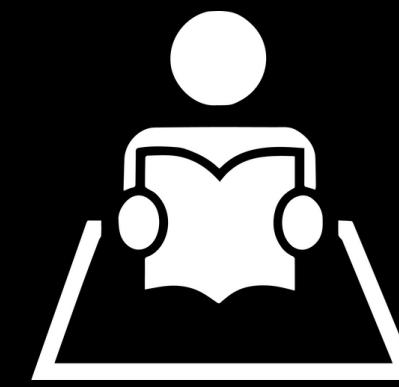
# A TYPICAL EDUCATION STRUCTURE

Any educational system consists of two primary zones or experiences.



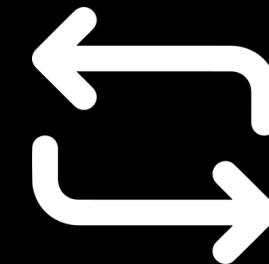
## The Classroom Experience

A learner traditionally receives instructions at school, and learns all there is to learn through an instructor and their teaching aids at school.



## The Home Experience

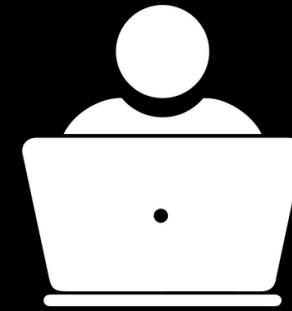
The learner is then given tasks or assignments to complete at home, to explore and understand the taught topics further and to reinforce them.



But what if we **flip** them?

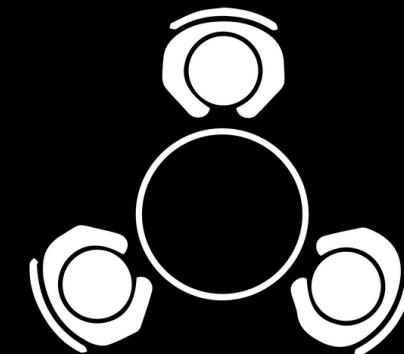
# THE bloom STRUCTURE

Understanding the importance of both, we decided to redefine what they meant and redesign the individual experiences.



## The Home Experience

Through a standardised digital learning platform, the learner receives instructions at home, for them to learn, remember and theoretically explore on their own as per their convenience and state of mind.



## The Classroom Experience

The learner comes to an open, collaborative classroom to practically explore the previously gained knowledge with the help of hands-on activities and relevant technology.

# UNDERSTANDING HOW WE LEARN

## Traditional Model

### Home

Students are responsible for homework on these levels of understanding

### Classroom

Instructors introduce new material to students who try to follow their speed and delivery

**Creating**

**Evaluating**

**Analysing**

**Applying**

**Understanding**

**Remembering**

## Flipped Model

### Classroom

Students work with their peers and instructors on these practical levels of learning

### Home

New material is introduced where they focus on mastering concepts at their own time and pace

## With the help of Bloom's taxonomy

Bloom's taxonomy is a universally recognized hierarchical model that defines the process of cognition and classifies educational learning objectives into levels of complexity and specificity, devised by a committee of educators chaired by Benjamin Bloom, an educational psychologist.

# ADVANTAGES

## Interaction

Increased interaction between students and their mentors, and amongst students themselves. Discussion and interaction opens up learners to new possibilities and provides live doubt-solving and feedback, and hence wider avenues for learning.

## Guardian Transparency

Guardians have a better chance to understand and support what their children are learning as there is more transparency in the curriculum, and teachers are more accessible to them than in conventional methods

## Practical Learning

A flipped classroom enables the possibility of knowledge reinforcement via practical activities and experimentation. These have proven to be marginally better for retention than theoretical learning

## Better content

Well trained teachers create and curate high quality content for the students to consume, to enable quicker and better understanding of topics by students as per their convenience.

A flipped classroom model has numerous benefits to both the mentor and mentee parties over conventional models.

## Flexibility

Students are provided with options to personalise their learning experience as per their convenience and interest. Classes, quizzes can be taken up when the child feels most absorbant, governed by reasonable but strict deadlines set by the teacher. Absences are also less costly, and distance learning in pandemics and disasters becomes very easy.



**07**



## **REDESIGNING THE CLASSROOM EXPERIENCE**

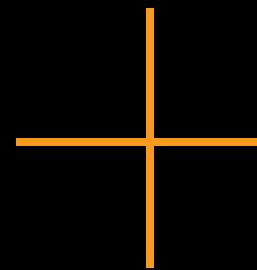
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How may we encourage true experimentation and practical learning in formal STEM education in school?

# Principles for a classroom of the future

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## Classrooms redefined



### Collaboration

Collaboration between all stakeholders- teachers, students etc encourages healthy discussion and develops much needed social skills. This also helps enable a truly free flow of ideas, and in cases where there's a paucity of resources.

### Experimentation

Promotion of experimentation and exploration all ideas- academic and non academic alike, encouragement to create, succeed and fail, rather than just to read about others' successes and failures

### Dirty hands

Hands on, practical education has been proven to be the best reinforcer of knowledge. Provide tools and space to enable these. Instead of preventing children from writing on the board, provide an entire wall to scribble upon. Encourage performing science experiments from a young age instead of making them watch.

### Tech-awareness

Designing for the future need not mean relying only on technology, rather making judicious use of the latest technology available. AR/VR are inexpensive and easily accessible, and will become primary tools in an open learning environment like Bloom's for the near future to teach and help with exploration. Make use of modular technology to make replacement with newer technology easier, unlike, for example, a large expensive Educomp board that is already outdated.

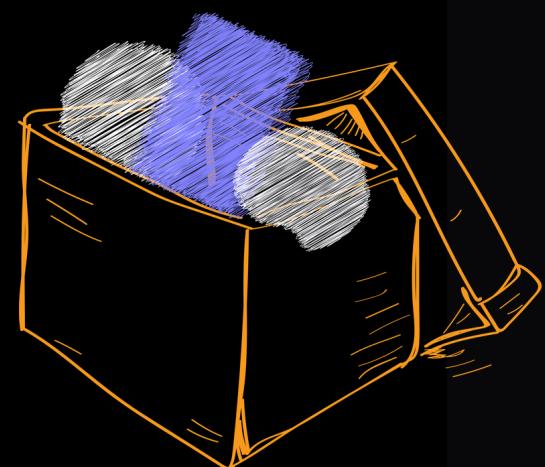
# Ideation

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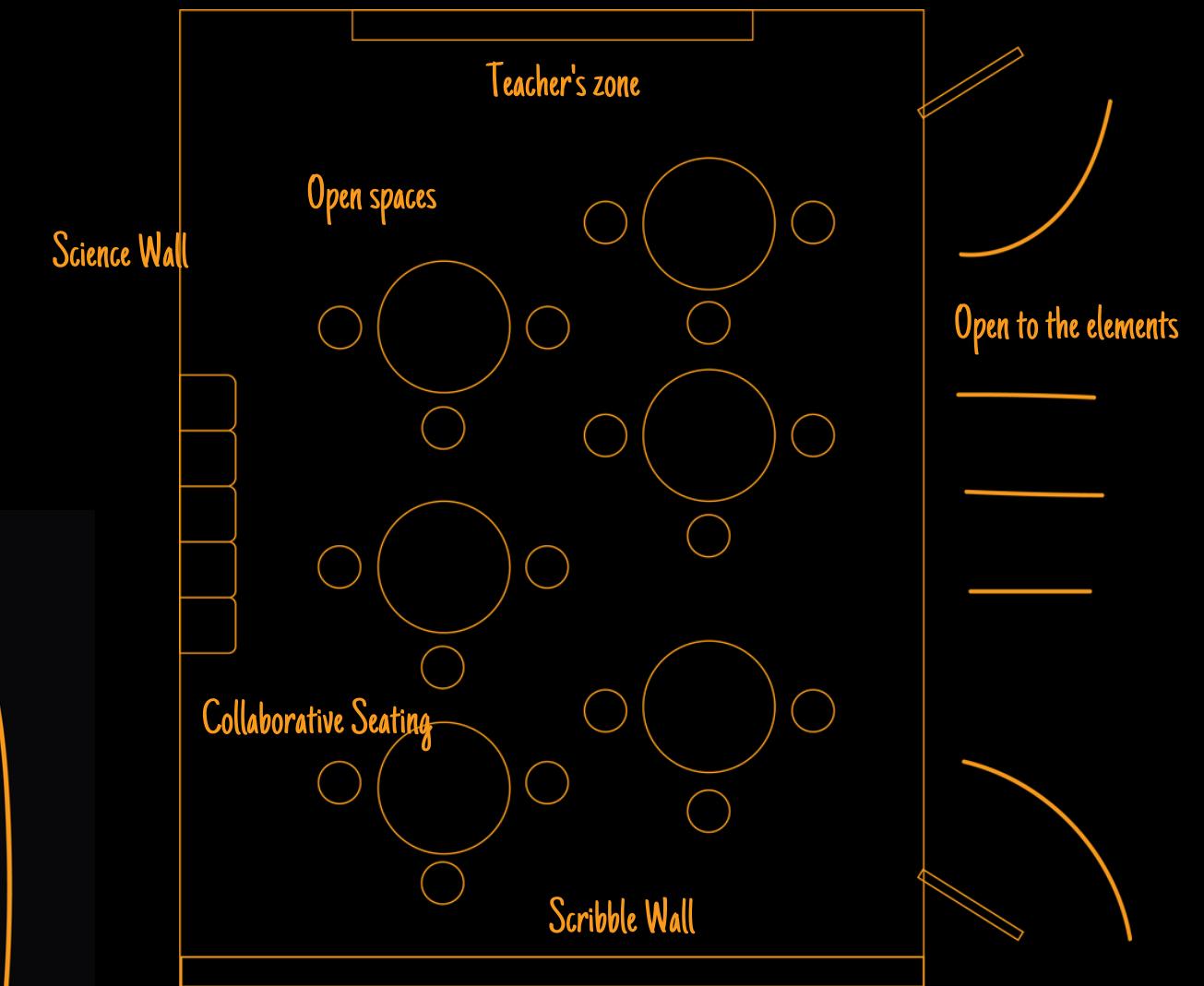
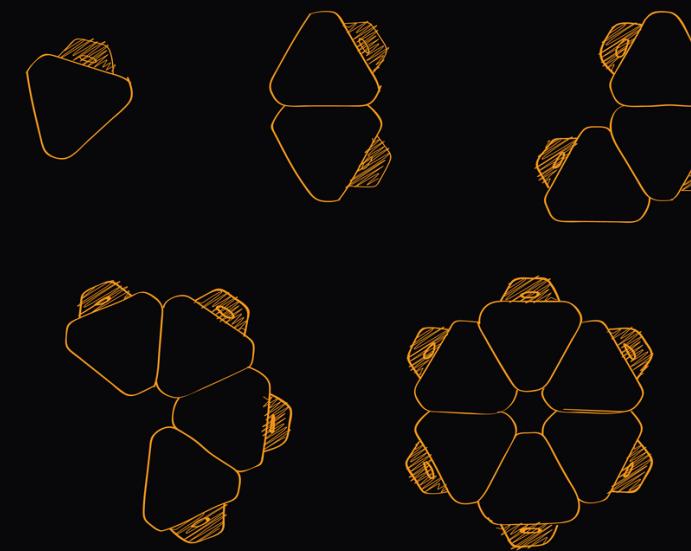
Trying out different things to bring out pre-defined principles to life in a way that actually impacts lives, and are reasonable changes to bring about.



Seating



Pick and play

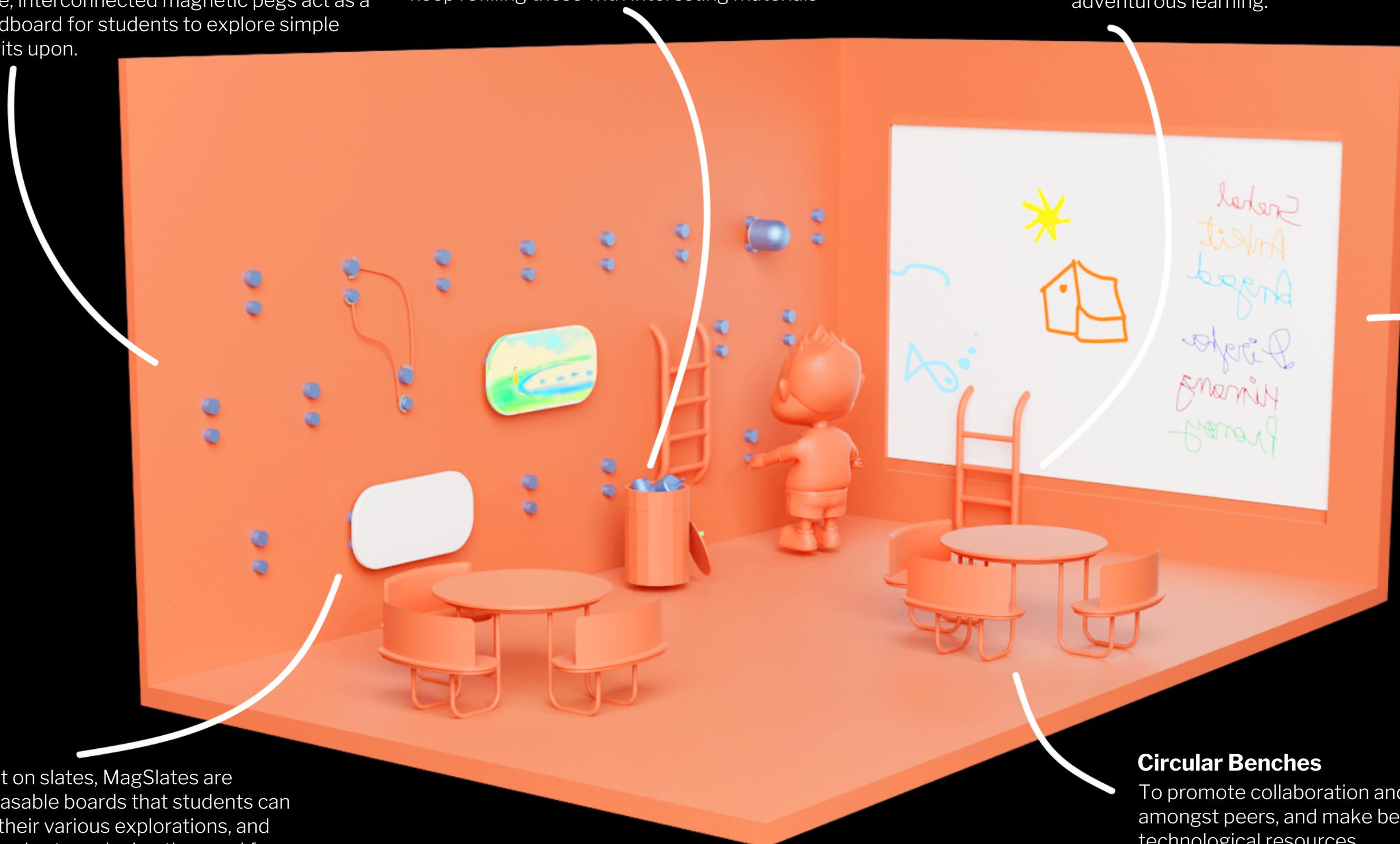


Layout

# 3D Mock

## Magnetised Breadboard

Large, interconnected magnetic pegs act as a breadboard for students to explore simple circuits upon.



## MagSlates

A modern twist on slates, MagSlates are magnetised erasable boards that students can use to display their various explorations, and create dynamic charts, reducing the need for paper as well.

## Bloom Bins

Bins full of motors, bulbs, wires, bottles- anything that can be recycled to build something new. Students are encouraged to keep refilling these with interesting materials

## Rounded Ladders

Small, rounded ladders placed on the walls to reach deliberately highly placed elements to promote moving about- physical or adventurous learning.

## Scribble canvas

A large erasable board for students to express and explore freely on.

## Circular Benches

To promote collaboration and discussion amongst peers, and make better use of limited technological resources



lader  
tista  
beseda  
veterin  
smarit  
normit



## 08 → REDESIGNING THE HOME EXPERIENCE

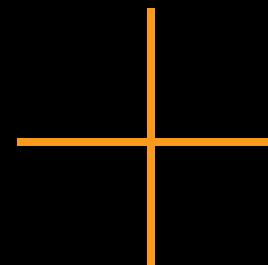
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How may we enable effective learning,  
remembering and retention at home?

# One-stop solution for all formal learning needs

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## Singular Platform



### Learning

Provide high quality learning material taught or curated by the school's teachers. Make teachers more accessible and involved in the child's learning process.

### Assessment

Provide engaging, interesting ways to assess and analyse the child's learnings, and grade them in a competitive way that's healthy and enriching, and not stressful.

### Exploration

Provide learners with extra material to explore, and both develop and quench their curiosity about the topics they're taught about.

### Future Proof

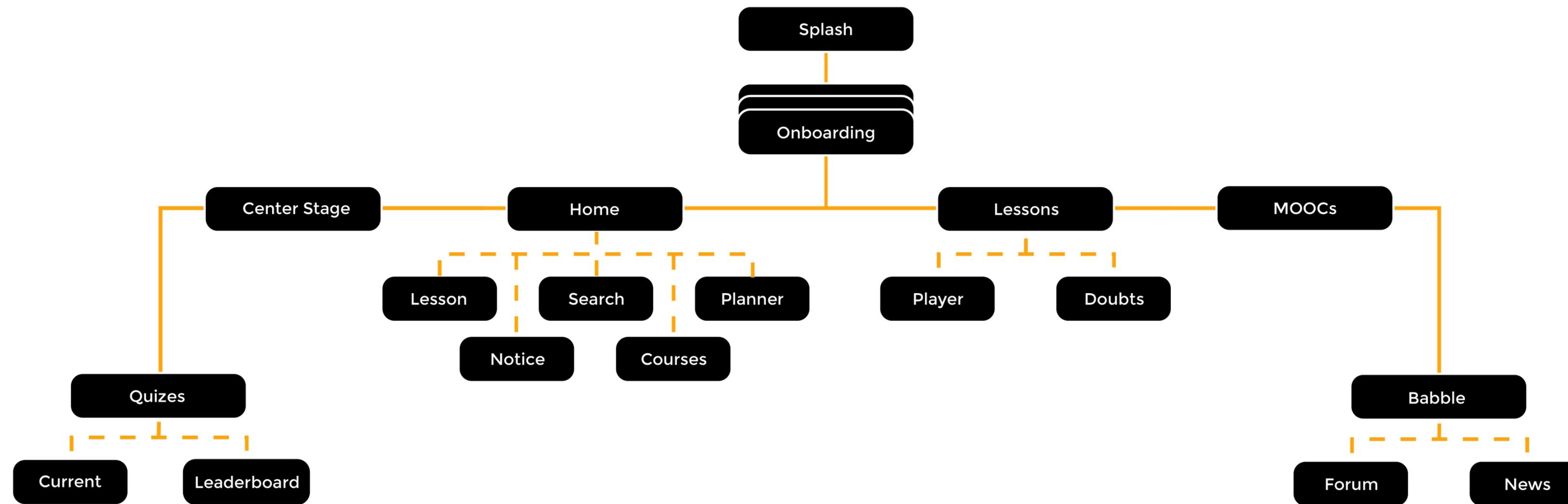
Makes distance learning as effective as contact learning in times of disasters and pandemics

### Non-Restrictive

Encourage learners to pick up courses and hobbies even outside the scope of their formal learning.

# INFORMATION ARCHITECTURE

We first built a basic skeleton of the digital platform, and found ourselves wanting to cut down on the branches as much as possible, which in turn gave us a simple, intuitive framework for the platform we wanted to build.



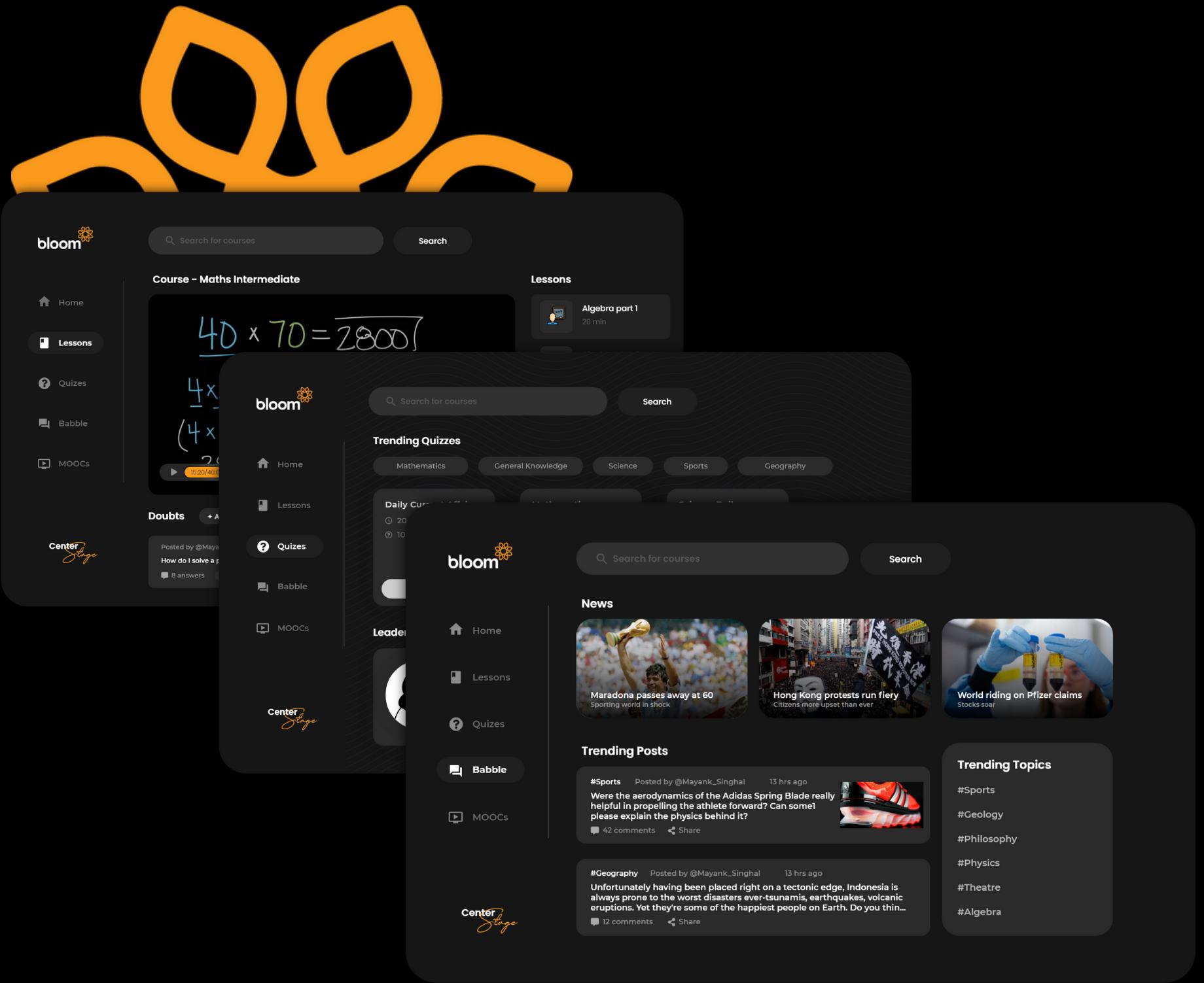
# All-inclusive

## One platform, countless possibilities

Bloom's home experience digitizes the learning aspect of education- lessons, assessment, information etc. These, with tonnes of added features makes it a perfect one-stop platform for learning and exploring any topic under the sun.

The Bloom app interface is designed to be user-friendly and feature-rich, providing a comprehensive learning experience. It includes:

- Today's Lesson:** A red box featuring a teacher's profile and the title "Trigonometry 101" by Mrs Prajna Athaiya.
- Notice Board:** A section listing upcoming events:
  - 2nd September: Week-long vacation starting 4th...
  - 2nd September: Reading and Listening grades a...
  - 1st September: Fall dress-up day!
  - 28th August: Reading and Listening test sche...
- My Courses:** A list of courses with edit icons:
  - Basic Mathematics: Mrs Prajna Athaiya
  - Organic Chemistry: Mrs Kavita Seth
  - Fine Arts: Mr Pradeep Singh
  - Reverse Engineering: Mr David Ganupalli
  - Marathi: Mr Yogesh Yelkar
- Quizzes this week:** A list of quizzes by day:
  - Meth - Long Division: Monday
  - Fine Arts - History: Wednesday
  - Marathi - Prepositions: Friday
- My Calendar:** A calendar for June 2020 showing the days of the week and specific dates.
- Quizzes section:** A "Center Stage" banner featuring Anurag Kashyap. Below are three quiz cards, each with a duration of 10 Minutes and an "Attempt Now" button.
  - Quiz 1: 10 Minutes (Attempt Now)
  - Quiz 2: 10 Minutes (Attempt Now)
  - Quiz 3: 10 Minutes (Attempt Now)
- Leaderboard:** A section showing the top 5 users with their names and profile pictures.



## Dark UI

### Reduced blue-light stress

A primarily dark UI causes lesser stress on the eyes, especially when learning happens primarily online, like in the current pandemic. Soft, rounded UI elements have an inviting effect, and give a classy industrial look.

# Lessons, Quiz

## Learn, assess and explore

For a flipped learning model where the learning, remembering and assessment parts happen at home, a well-designed lessons and quiz framework is crucial. Bloom makes these interesting and engaging, provides true flexibility and personalization, with live feedback on the learning process.

While teachers develop the course structure and assessment styles, learners have the flexibility of taking these up as and when they feel most absorbant.

The screenshots illustrate the Bloom app's user interface, designed for a flipped learning model. The top screenshot shows the homepage with a dark theme, featuring a search bar, a 'Trending Quizzes' section with categories like Mathematics, General Knowledge, Science, Sports, and Geography, and a 'Leaderboard' section. The bottom screenshot shows a course page for 'Maths Intermediate' with a video player displaying a multiplication problem ( $40 \times 70 = 2800$ ), a 'Lessons' sidebar with four items, and a 'Doubts' and 'Class Comments' section.

**bloom**

**Center Stage**

Anurag Kashyap Basics of Filmmaking

**Live session**

**Live chat**

by @Shreya\_basu 5 min  
How are the stunt scenes executed  
+1

by @kartik\_nit 4 min  
Nice, really enjoying the interaction  
+1

by @Sumit\_chadda 4 min  
How can I get good in acting ?  
+1

by @Ravi\_verma Now  
Do you ever plan to make an animated movie for kids?  
+1

**About the Guest**

Anurag Kashyap (born 10 September 1972) is an Indian film director, writer, editor, producer, actor known for his works in Hindi cinema. He is the recipient of several accolades, including four Filmfare Awards. For his contributions to film, the Government of France awarded him the Ordre des Arts et des Lettres (Knight of the Order of Arts and letters) in 2013.

**This week on**

**Center Stage**

**Anurag Kashyap**  
Basics of Filmmaking



Learn from the best

Exclusive talks by the literal best in their fields, enables children to discover new hobbies and passions in non academic, niche areas.

# Babble

Engage in discourse

Babble means continuous simultaneous, excited conversation, which is exactly what the feature promotes. Constructive discussion enables true inquisitiveness, awareness and exploration as it opens up students to new ideas and perspectives. Babble is an open space where students across the Bloom system can receive latest news and post questions/thoughts up for public discussion.

The screenshot shows the Bloom mobile application's interface. At the top left is the 'bloom' logo with a yellow flower icon. To its right is a search bar with the placeholder 'Search for courses' and a 'Search' button. On the far right is a large orange decorative graphic of a stylized figure made of interconnected rings.

The main content area has a dark background. On the left, a vertical navigation menu includes 'Home', 'Lessons', 'Quizzes', 'Babble' (which is highlighted with a white background), and 'MOOCs'. At the bottom of this menu is the 'Center Stage' logo.

The central part of the screen features three news cards under the heading 'News':

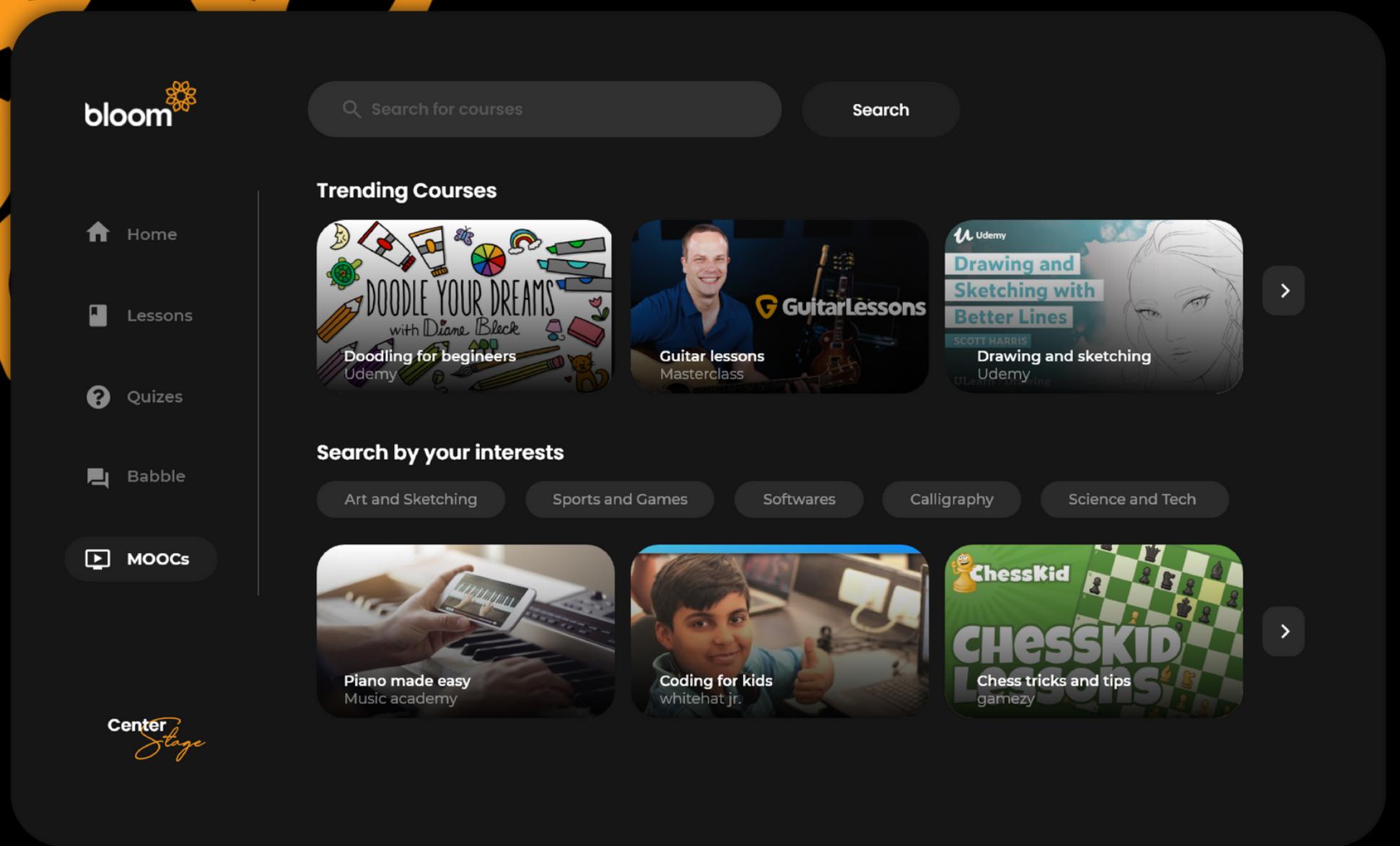
- Maradona passes away at 60** (Sporting world in shock)
- Hong Kong protests run fiery** (Citizens more upset than ever)
- World riding on Pfizer claims** (Stocks soar)

Below the news cards is a section titled 'Trending Posts' containing two posts:

- #Sports** Posted by @Mayank\_Singhal 13 hrs ago: **Were the aerodynamics of the Adidas Spring Blade really helpful in propelling the athlete forward? Can someone please explain the physics behind it?** (with a red and black Adidas shoe image)
- #Geography** Posted by @Mayank\_Singhal 13 hrs ago: **Unfortunately having been placed right on a tectonic edge, Indonesia is always prone to the worst disasters ever-tsunamis, earthquakes, volcanic eruptions. Yet they're some of the happiest people on Earth. Do you think...** (with a small image of a person)

To the right of the trending posts is a box titled 'Trending Topics' listing:

- #Sports
- #Geology
- #Philosophy
- #Physics
- #Theatre
- #Algebra



## Inbuilt MOOCs

Become industry ready

Exclusive partnerships with major MOOC platforms provides vast learning opportunities for students to take up in their free time, to pick up skills as per their interest and the demand of the ever-changing industry. Extra credits can be used as motivators for students to pick such courses up.

Thank  
*you*

