



Teach ME
National Students
Innovation Competition
2021

OFFICIAL GUIDELINES

TABLE OF CONTENTS

INNOVATION COMPETITION	
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EXECUTIVE SUMMARY	2
INTRODUCTION	4
ELIGIBILITY	6
Juniors	6
Seniors	6
PROTOTYPE SUBMISSION	7
Submission Guidelines	7
Judging Criteria	9
Definitions	9
Theme and Presentation.....	11
Building Your Virtual Prototype	13
Verbal Presentation of Prototypes	13
SUBMISSION OF ENTRIES	14
PRIZES.....	15

EXECUTIVE SUMMARY

NIHERST, a state agency currently under the Ministry of Education, was established in 1984 to promote science, technology and higher education in Trinidad and Tobago consistent with national development goals. In 2014, NIHERST entered into a participatory initiative with the Scientific Research Council (SRC) in Jamaica, entitled "Improving Innovation Capacities in the Caribbean" (INVOCAB). INVOCAB set out to achieve the goal of promoting and enhancing Science, Technology and Innovation at the primary and secondary school levels. Upon executing the project, a decision was taken to extend the project's reach to include a programme that will focus specifically on Mathematics at the primary school level. As a result, *Teach ME* was introduced and implemented as a supported project from INVOCAB, with the overarching goal of improving students' performance in the Mathematics component of the SEA Examination.

The Teach ME project aims to contribute towards improving the levels of creativity in Trinidad and Tobago by building and strengthening capacities in the areas of Science, Technology and Innovation and specifically Science Education as an enabler for ensuring that our education at primary and secondary levels prepares our young people for the challenging world of Science and Technology. The project was initiated in 2016 with two (2) primary schools on board. In 2017, five (5) primary schools participated in the project; in 2018 this number increased to eight (8) participating primary schools; and in 2019, the project further expanded to eleven (11) primary schools and the new addition of four (4) secondary schools¹² from the INVOCAB project. In 2021, the project continued to expand and welcomed two (2) additional primary schools.

One of the projects' main deliverables is developing and hosting a Students' Innovation Competition. This will be the 2nd year that the competition is open to **all** primary and secondary school students of Trinidad and Tobago. The 2021 competition will focus on the theme: **"The Economy and Its Challenges due to COVID-19"**. Primary and secondary

¹ Teach ME: Increasing **Teachers'** Confidence for **My Education**

² Secondary schools are invited to participate in the Innovation Competition only. Teach ME specifically targets the primary school curriculum.

school students, with the assistance and supervision of a teacher or mentor, will embark on developing solutions to a particular problem in relation to the above theme.

INTRODUCTION

“In the new economy, information, education, and motivation are everything.”

William J. Clinton

The National Students Innovation Competition aims to foster a culture of science, technology, innovation and entrepreneurship. The competition seeks to recognise and reward student innovators and problem-solvers for their application of scientific knowledge and technological solutions in an effort to solve a problem faced by their community or school, and ultimately, to market and commercialise their idea or creation. Boosting the creative and innovative capacities of the youth of Trinidad and Tobago, in addition to fostering their entrepreneurial spirit is critical to the country’s future competitiveness.

The Teach ME National Students Innovation Competition encourages students:

- ❖ To identify and solve a school or community problem.
- ❖ To develop *Habits of Mind* and 21st Century Skills such as critical thinking and problem solving, creativity and innovation, perseverance and adaptability.
- ❖ To develop their ideas for commercialisation.

For 2021, the Teach ME National Students Innovation Competition will be once again hosted on the virtual platform **Roblox**. Roblox is an online game platform and game creation system that allows users to design and build their own games as well as play games created by other users. This competition will expose participants to coding, game development and game design, skills that they will use to build a virtual community in which they would solve a problem related to the overarching theme **The Economy and Its Challenges due to COVID-19**. Additionally, students will develop and improve *Habits of Mind*, a set of problem solving, life related skills, necessary to effectively operate in society and promote strategic reasoning, insightfulness, perseverance, critical thinking, creativity and ingenuity.

Potential entrants to the National Students Innovation Competition should give consideration to the following questions when conceptualising ideas and designing their virtual prototype:

- ❖ Does your idea or design solve a problem?
- ❖ What are the benefits of your innovation/invention to society, environment etc.?
- ❖ How easy can your idea be implemented in your community?
- ❖ Have you done research to ensure the novelty of your idea?
- ❖ Can your creation be marketed and earn profits?

Students are required to develop their idea to deliver a virtual business pitch of their simulated prototype to the Government of Trinidad and Tobago or prospective investors.

ELIGIBILITY

1. All entrants must be nationals of Trinidad and Tobago between the ages of 8 – 17.
2. Individuals or teams of up to five (5) persons can enter the competition.
3. Judging and prize giving will be divided into the following categories:
 - Juniors
Ages: 8 – 10
 - Seniors
Ages: 11 – 17
4. Multiple entries are allowed and should be done on separate entry forms.
5. Members of the organising committee and their families are not eligible to enter this competition.
6. Entrants must sign the relevant agreement forms to be considered for judging.

PROTOTYPE SUBMISSION

Submission Guidelines

An independent panel of distinguished professionals will be appointed to evaluate all entries.

Stage 1:

- i. Complete and submit all team registration forms and permission slips **no later** than **October 10th, 2021**.
- ii. Complete and submit **Prototype Proposal Document** **no later** than **October 10th, 2021** in order to be submitted for the first review by the judges. Remember, students can submit multiple entries; however, a team can only hold a maximum of five (5) students. The Proposal Document must include a brief description of the problem to be addressed and the solution that the virtual prototype will provide.
- iii. Teams must complete a **Project Design Packet** to document their journey throughout the competition (one design packet per team). Design packets should detail the project concept, design process and development, trials and error, and any other records. Design packets must include weekly progress notes and can be supplemented with pictures or videos. Students are encouraged to be as creative as possible.
- iv. Reviewers will conduct an initial assessment of the prototype proposals and will offer recommendations. All teams will receive feedback from the judges' first review by **October 15th, 2021**. After which, teams can edit and further develop their ideas in order to begin building their virtual prototype.

Stage 2 (Round 1 of Judging):

- i. All entrants must submit a **Draft Design of the Virtual Prototype** (e.g. a picture, sketch, small model) or a **Video of a Run-Through³**, along with the **Prototype Proposal no later than November 10th, 2021**. The judges will assess these draft designs based on the following criteria: -
 - **originality (40%)**
 - **functionality (40%)**
 - **ingenuity (15%)**
 - **sustainability (5%)**
- ii. Judges will provide further comments and recommendations. After which, teams can then proceed to make any necessary changes to develop their final prototype.

Stage 3 (Round 2 of Judging):

- i. Teams must submit their **Final Prototype Proposal no later than November 20th, 2021** via email prior to the final judging date.
- ii. On the final judging date, teams must deliver a **short presentation*** on their virtual prototype (see page 12 for further guidance), along with their **final Project Design Packets**.
- iii. Please note that the final judging will be held via Zoom on **November 25th, 2021**. Any changes to date or video communications platform will be communicated.
- iv. Prize giving ceremony details will be announced following the selection of competition winners.

**Presentations can be done in any creative manner preferred by the entrant.*

³ The activity of performing or playing something from beginning to end in order to practise it.

Judging Criteria

Prototypes will be judged on the following criteria:

- **Originality (15%)**
- **Functionality (15%)**
- **Ingenuity (10%)**
- **Sustainability (10%)**
- **Methodology (10%)**
- **Creativity (5%)**
- **Usefulness (10%)**
- **Presentation (10%)**
- **Simplicity (5%)**
- **Commercial Potential (10%)**

Definitions

A brief definition of each criterion is given below:

Functionality:

- Is defined by the capacity of the innovation/invention to serve the proposed purpose well.

Sustainability:

- Is defined by the capacity for the innovation/invention to be maintained for a considerable period of time (including and not limited to long-term market/economic potential as well as ecological sustenance, i.e. not exhausting natural resources or causing ecological damage).

Methodology:

- Is defined as the system of methods and principles employed in the development of the idea or innovation.

Originality (of the idea):

- Is defined by the innovation/invention being new in character or design (must demonstrate appreciable novelty).

Creativity (of the idea's development):

- Is defined by the level of imagination that the invention/innovation displays.

Usefulness:

- Is defined by the benefits to society (social, ecological, socio-cultural or economic).

Ingenuity:

- Is defined by the skill utilised in devising or contriving the invention/innovation.

Simplicity:

- Is defined by the uncomplicated mechanisms used; the ease with which materials can be acquired and the steps involved in the manufacturing or process of development.

Commercial Potential

- Is defined by the prospect of sales and profit on a large enough scale to make the risk generated from the invention/innovation worth undertaking. It involves undertaking market research to identify the markets, the market need and the market competition.

THE JUDGES' DELIBERATIONS, INCLUDING THEIR EVALUATIONS, AND REPORTS SHALL BE KEPT CONFIDENTIAL AT ALL STAGES OF THE COMPETITION AND THEIR DECISIONS ARE FINAL.

Theme and Presentation

Welcome Young Innovators!

The Economy and Its Challenges due to COVID-19

The economy has been significantly affected since the emergence of the 2019 Corona Virus Disease (COVID-19) outbreak. The economy speaks to the state of our nation's production and consumption of goods and services, and the flow of its currency (our system of money). In response to the pandemic, businesses in Trinidad and Tobago were forced to stop operations for extended periods of time, and the country's international border was closed in an attempt to reduce the flow of human traffic, and hence the spread of the disease. As a result, the Trinidad and Tobago economy has stagnated.

The economy is struggling. Many entrepreneurs have given up operations and the business community is uncertain, whilst the establishments deemed essential have continued to flourish given that these now have a larger demand. The loss of income has been the possible onset of economic recession, with the subsequent rise of local and migrant unemployment. Financial assistance such as rent and food relief initiatives for those most in need, as well as, other financial relief services for job loss, and leeway for business taxes, loans and other bank services have become quite critical. As these relief initiatives place strain on the country's already fragile economy, the focus now must be economic growth and recovery.

Prioritizing innovation today is the key to unlocking postcrisis economic growth. Crises have a tendency to reshape spending patterns and the fallout from COVID-19 is expected to fundamentally change the world of commerce for many years to come. Pre-pandemic, most innovation initiatives aimed at growing profits; however, our present-day crisis has birthed a new innovation target – resilience. Resilience will be the cornerstone for companies being able to effectively shift in response to unexpected events and to the evolving needs of consumers. Resilience will be the driving force for economic growth.

All entries to the Teach ME National Students Innovation Competition will be broadly classified under the theme ***'The Economy and Its Challenges due to COVID-19'***.

Participating students, with the assistance and supervision of their teachers or mentors, will embark on a project, following the outlined guidelines, to solve a particular problem in relation to the theme.

Building Your Virtual Prototype

Students must use the designated game building software **Roblox Studio** to design their virtual prototypes.

1. Create Roblox user account www.roblox.com
2. Download and install Roblox Studio www.roblox.com/create
3. Collaborate using Team Create feature
4. Using Roblox, create a solution to a threat or problem in your community in relation to the theme ***The Economy and Its Challenges due to COVID-19***

Tutorials would be circulated via email to all participants as a guide to using the gaming platform.

Important Points to Note:

- Students must construct **60%** of their prototypes on their own versus using free models from the online database.
- Absolutely **no** downloading of free models of building structures e.g. houses, schools, hospitals, business offices, commercial centres etc. Students must construct buildings on their own.
- Downloading of free models from the online database is allowed for characters/avatars, cars, accessories, items used for aesthetics (trees) etc.
- Collaborate as a team. Must be a team effort.
- Students are not allowed to edit or delete another teammate's work without his/her permission.

Verbal Presentation of Prototypes

Teams must: -

- explain their innovation, clearly describing the community problem that their virtual prototypes were created to solve.
- describe how their virtual prototypes are intended to work.
- detail the use of coding in the development of their virtual prototype.
- include a brief plan or proposal to produce and sell their innovation to the government of Trinidad and Tobago or investors.

SUBMISSION OF ENTRIES

Competition forms must be submitted **on or before** the stipulated deadlines as follows:

You can e-mail your submissions to teachme@niherst.gov.tt **on or before** the stipulated deadline dates.

Your submission should be entitled “NIHERST Teach ME National Students Innovation Competition 2021”.

PRIZES

Fifty thousand dollars (\$50,000) in cash prizes to be won!

Prizes for winners in the Junior and Senior categories will be awarded as follows:

- 1st place winners
- 2nd place winners
- 3rd place winners

Additional prizes may also be awarded at the discretion of the organisers. NIHERST and the organising committee reserve the right to refuse awarding of prizes where the required standards are not met and will not be liable to any entrant for the loss of opportunity, or under any other grounds.