



Interactive Science Expression

with LEGO® SERIOUS PLAY® Workshops
Five-day English communication course

September 7–11, 2026 | 15 lessons

Course facilitator Mark Sheehan



Course report and introduction for prospective students



A week of building and discussion

Across five days, students used LEGO models to explain ideas in English, listen to different perspectives, and develop shared responses to scientific and social questions.

The course connected personal reflection with research communication. It began with introductions and moved through identity, the effects of technology, global problems, and the leadership students might exercise in the future.

Interactive Science Expression with LEGO® SERIOUS PLAY® Workshops was offered as Materials Science English 3 and Interactive Science Expression.

The five-day course

01 Monday, September 7

Orientation and skills building

Activities 04 Models 05

02 Tuesday, September 8

Real Time Identity for You

Activities 06 Models 07

03 Wednesday, September 9

Science and technology in society

Activities 08 Models 09–10

04 Thursday, September 10

Global issues and science

Activities 11 Models 12–13 Connections 14

05 Friday, September 11

SWOT, predictions and responses

Activities 15 Models 16–17

Daily schedule 09:00–13:30

Three lessons each day, including scheduled breaks.





How the models supported English

Every model became an answer to a question. Students gave meaning to the pieces, explained that meaning in English, and used questions from classmates to develop the discussion.

1 Challenge

A question gave each round a clear purpose, from introducing a research topic to proposing a response to a global problem.

2 Build

Students made an individual model. Metaphors allowed shapes, figures, colors, and connections to carry an idea.

3 Share

Each builder told the story of their model. Everyone built and everyone had a turn to speak.

4 Reflect

Questions, answers, and comments helped the group explore the ideas. Shared models required students to identify key elements and negotiate how to combine them.



Students working together during the science and technology workshop.

The builder explains the meaning. Other participants ask about the model and its story rather than assuming what its symbols mean.



Orientation and skills building

Students began with practical building activities that introduced the LEGO® SERIOUS PLAY® process. Building a tower, modifying a model, and telling a story helped them move from describing objects to using metaphor.

Introductions with something to explain

The workshop prompts explored interests, personal qualities, aspirations, and goals for the course. These activities gave students material for more detailed introductions and reasons to ask one another follow-up questions.

Research in a model

To conclude the day, students built models to communicate one important thing about their research. Explaining the model gave them a concrete starting point for introducing a specialized topic in English.

“Build a model to tell us one important thing about your research.”

English practice included describing a model, explaining a metaphor, giving a reason, and responding to questions.

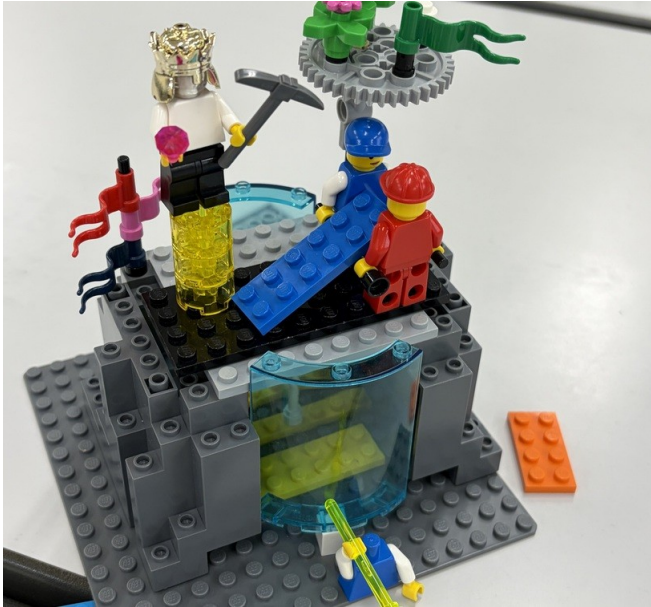


Choosing pieces and preparing to build on the first day.

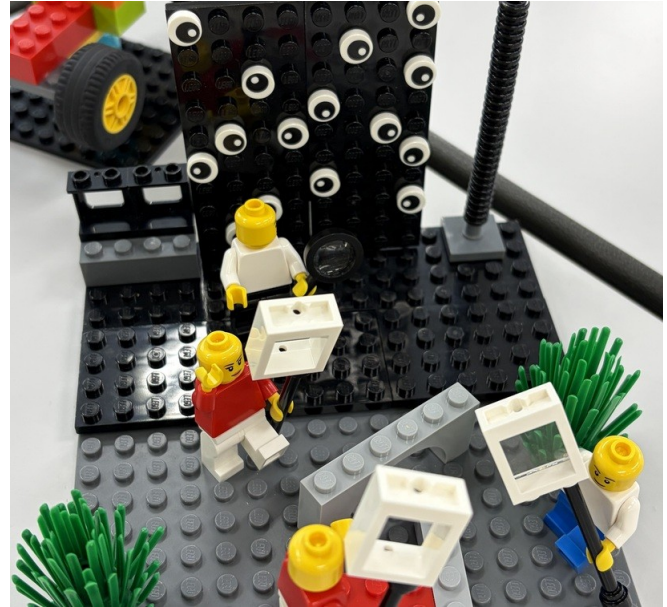


Models for telling stories

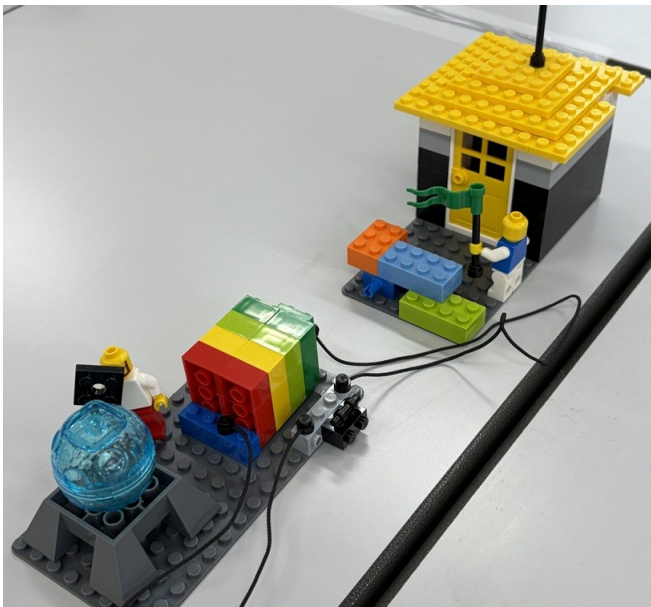
Selected models from the first day show the variety of forms students used as starting points for explanation.



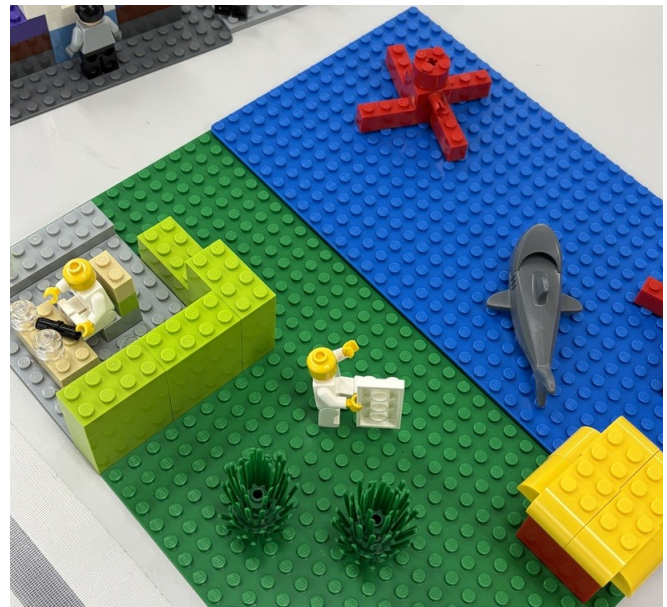
A tall structure with figures and transparent pieces.



Binary information from linguistics becomes communication. Frames and eyes arranged around a dark panel.



Moving outside comfort zones to communicate. A house and a globe linked by strings.



Field work and research. Figures and contrasting areas on green and blue bases.



Real Time Identity for You

The second day focused on understanding oneself, considering how others see us, and thinking about the person one hopes to become. Students used models to make these different perspectives visible.

Three views of identity

Core identity explored who students are and what matters to them. External identity considered how other people see them. Aspirational identity focused on the qualities and roles they want to develop.

Making aspirations actionable

Students then identified an obstacle to their aspirational identity and proposed an action to overcome it. This moved the discussion from describing a desired future to considering a practical next step.

The workshop invited students to understand classmates more deeply and consider how they could contribute to their educational community.

English practice included describing personal qualities, comparing perspectives, explaining an obstacle, and proposing action.



Models provided a shared focus for the identity discussion.

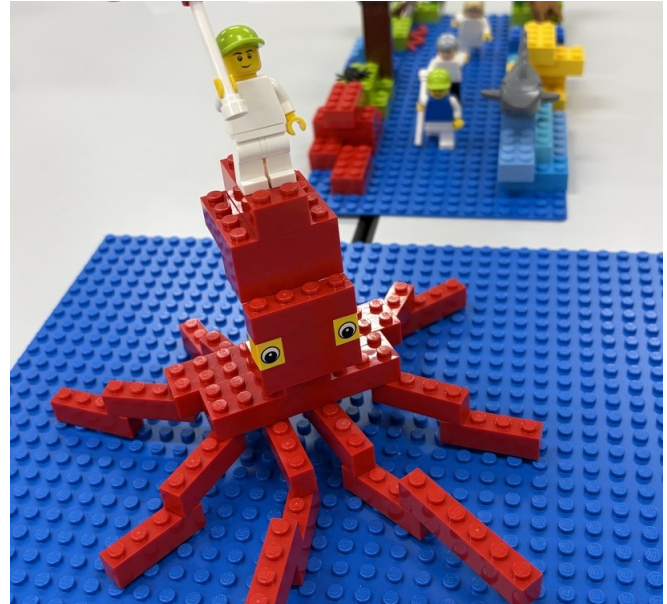


Identity in different forms

Individual structures and connected arrangements gave students several ways to explain their identities and aspirations.



Identity: create and share. A pallet, canvas on an easel.



Taxonomy: research on cephalopods. A red structure stands above a blue landscape.



Making choices and finding pathways. Colored pathways extend from a central point.



Curiosity leads to more options. Flexible links join models across the table.



Science and technology in society

Students examined both the positive contributions and the negative effects of science and technology. They first built individual answers, then negotiated which elements to bring into shared models.

Three shared models

The group created a model for positive contributions, a second for negative impacts, and a third for predictions about a better future. Combining ideas required students to explain what was essential in their own model and listen to what mattered to others.

Ideas raised in discussion

Positive contributions included the theory of randomness, taxonomy, and the wheel. Concerns included inequality, the digital gap, disconnectedness, misuse of information and technology, and environmental damage.

Future possibilities included enhanced health care technology, more secure and private communication, greater equality, and harmony between humans and technology.

English practice included evaluating benefits and risks, explaining cause and effect, making predictions, and negotiating a group answer.

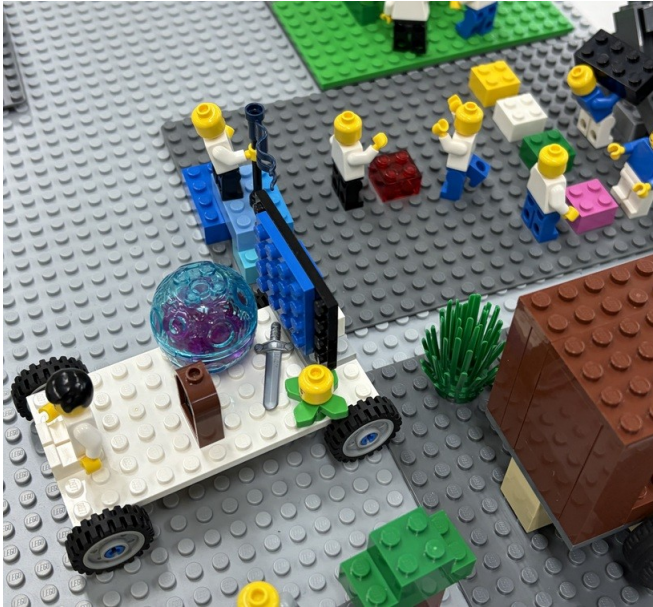


Selecting pieces for the science and technology models.

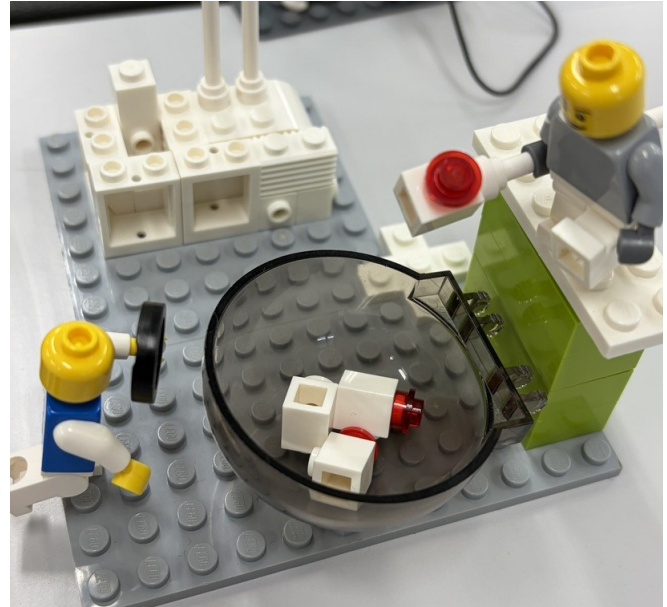


Details for discussion

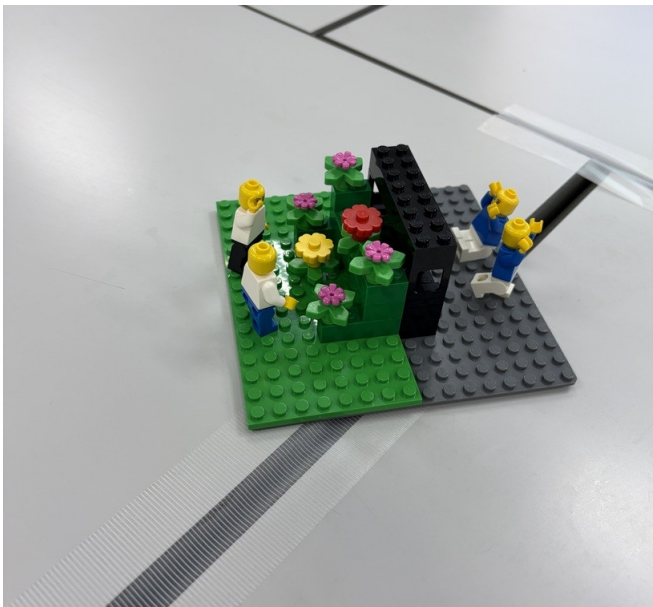
The models gave abstract questions about science and society a visible form that students could point to and explain.



A wheeled platform carries figures and a transparent globe.



Theory of randomness: a roll of the dice. Figures surround a white structure and circular platform.



Illustrating positive and negative. A dark partition divides two contrasting areas.



Information overload. A net and upright frames form part of a larger model.





Combining individual ideas

The shared-model task asked students to select important elements, explain their choices, and agree how those elements would fit together.



An overview of the assembled models.



An illustration of longer life spans and improved medical technology. A multicolored strip runs between separate scenes.



Examining nature to support humanity. Figures and suspended sharks occupy a raised green structure.



Global issues and science

Students began by building what the word “global” meant to them. The open prompt invited ideas about people, the planet, connections, technology, and culture.

Problems and possible solutions

The main activities asked students to identify an important global problem and propose a solution. They built individual answers and negotiated key elements for shared models. The workshop also invited a shared vision of a future in which today’s problems had been addressed.

Connecting research with the world

Students considered how their research or laboratory could contribute to solving global problems. The workshop prompts also asked what individuals could do and how problems and solutions connect to one another.

The resulting landscape extended across the tables. Physical links made relationships available for discussion, including links between problems, between solutions, and between the two.

English practice included defining a problem, proposing a response, explaining relationships, and discussing the relevance of research.

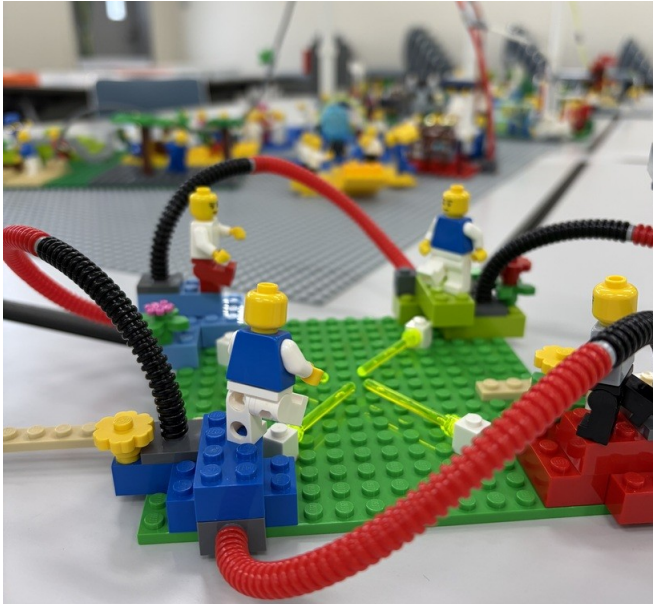


Students building and connecting the shared landscape.



People, places and connections

Close views from the global issues workshop show figures, built environments, natural elements, and physical connections.



Connections from 4 corners of the globe. Flexible arcs connect figures around a central space.



Environmental change and warming. Red flags and flame pieces cover a branching structure.



Environmental damage. A shark and skeletons sit beside a doorway.



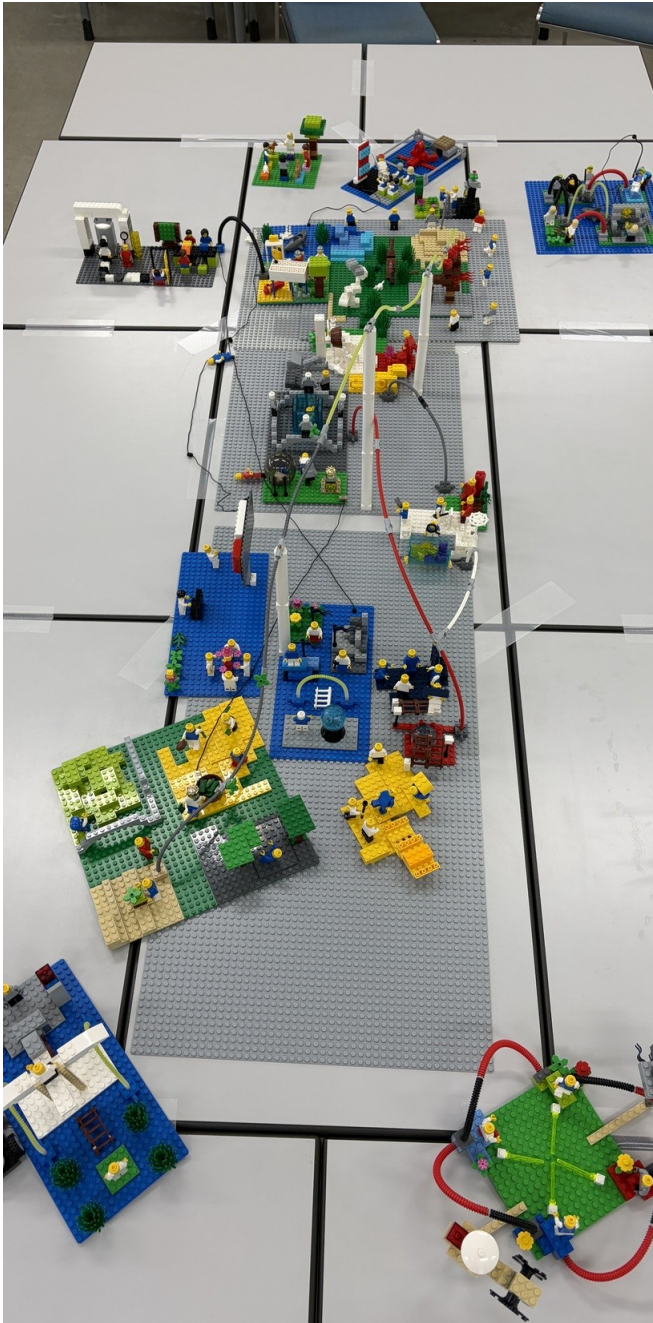
A definition of globalism. A raised aircraft appears alongside a wheeled model.





The connected landscape

Bringing the models together allowed the group to examine relationships across the whole arrangement while retaining details from individual contributions.



The full landscape spans several tables.



Figures gather around a globe, platforms, and enclosed spaces.



Research: find, analyze, communicate. Interdisciplinary research. A detailed scene includes a white structure, a transparent panel, and several figures.



Making connections visible

In LEGO® SERIOUS PLAY®, participants connect their models and explain what each link means. The shared landscape brings problems, proposed solutions, and research contributions into one discussion.

Global problems

Global warming
Desertification
Deforestation

Proposed solutions

Investment
Reforestation
Urban green spaces

Research contributions

Education
Analysis
Communication



Physical links bring separate models into a shared landscape, making relationships visible for discussion.



Participants add connections and explain how their models relate.



A choice of pieces gives builders different ways to represent a link.

Connect. Explain. Explore.

Which problem could this solution address? How could research contribute? What might change elsewhere? Explaining each connection helps participants examine relationships, question assumptions, and see beyond an individual model.



SWOT and future leadership

The final day connected personal reflection with long-term social change. Students built a personal SWOT analysis: strengths, weaknesses, opportunities, and threats that could help or hinder their progress.

Personal resources and challenges

The four model-building prompts asked students to consider their abilities, areas for improvement, opportunities, and risks. Ideas included teamwork, communication, and interdisciplinary collaboration.

Predictions and responses

Using these models as anchors for discussion, students predicted how Japan and the wider world might change over the next 20 to 30 years. Their predictions included labor shortages, population decline, and loss of diversity.

Proposed responses included collaboration, redistribution of wealth, coexistence with physical AI, improved energy use, and alternative energy. Students considered how they could use science and technology while exercising their own leadership.

English practice included self-evaluation, discussing uncertainty, explaining future scenarios, and proposing a reasoned response.

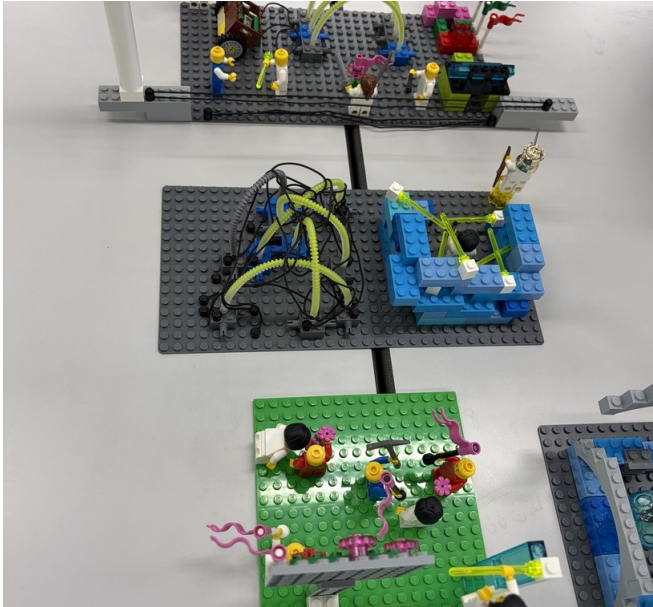


Students developing their final-day models and responses.



Models for reflection

The final-day models supported discussion of personal strengths and challenges, future change, and possible responses.



Arches, strings, and an enclosure form distinct arrangements to illustrate pressure and feelings of gaps in knowledge.



A yellow structure stands above a green and blue scene.



A dark pathway leads toward a large chest. Tackling large problems by breaking them down and using experts in various fields to solve them.

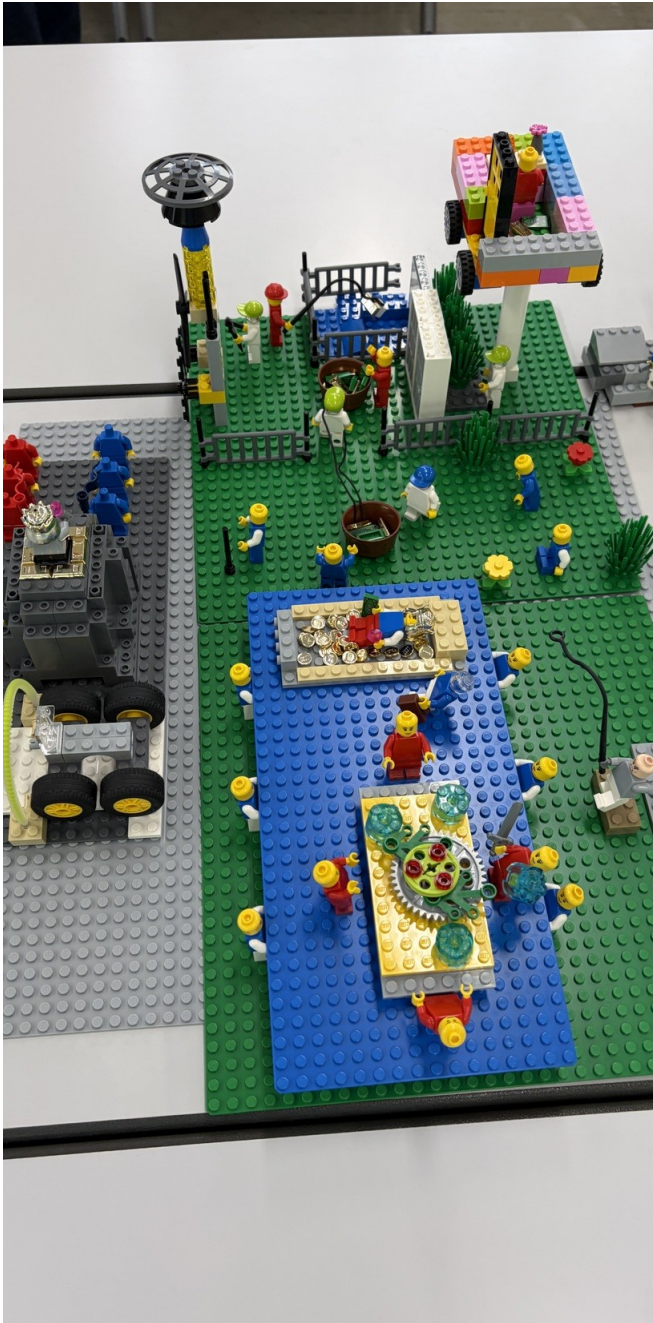


Several models use frames, platforms, and figures.



Future responses in detail

Larger arrangements brought people, resources, structures, and connections into the same field of discussion.



The burden on the haves and have-nots. An overview of a final-day landscape.



Wealth and resource disparity. Figures surround a raised platform with gears and transparent pieces.



Redistribution of wealth and resources. More figures gather around several gear-based structures.



What students practiced

The week created repeated opportunities to use English for a purpose: explain an idea, understand someone else's meaning, and work toward a shared response.

Communicating research and reasoning

Students practiced introducing specialized ideas, giving opinions with reasons, asking questions, and discussing scientific topics beyond their own research field.

Working with other perspectives

Shared models called for active listening and negotiation. Identity and SWOT activities supported reflection on personal development, while the global and future-focused tasks connected research with social responsibility.

For prospective students

Expect to build, explain, listen, and discuss. The course begins with skills building, so experience with LEGO® SERIOUS PLAY® is not the starting point. The focus is the meaning you give your model and how you communicate it, rather than the complexity of the construction.



A final-day detail from the course's model-based discussions.

Course materials Mark Sheehan's five workshop slide decks and course report, September 7–11, 2026.

Photographs 2026 course collection.

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英語で考えを伝え 科学と社会をつなぐ

2026年9月7～11日、全15レッスンの「物質科学英語3」「インタラクティブ科学表現」では、LEGO® SERIOUS PLAY®の手法を用い、モデルの意味を英語で説明し、互いに質問する活動に取り組みました。

初日は、基本的な作り方と比喻による表現を学び、自己紹介や研究の説明を行いました。2日目は、自分の本質、他者から見た自分、目指す自分を考え、その実現を妨げる課題と具体的な行動を話し合いました。

3日目は科学技術が社会にもたらす利点と負の影響、将来の可能性を検討しました。4日目は地球規模の課題と解決策を取り上げ、自分の研究室や研究がどのように貢献できるかを考えました。

最終日は、強み・弱み・機会・脅威を整理するSWOT分析を行い、20～30年後の社会の変化を予測しました。人口減少や労働力不足などをめぐり、協働、エネルギー利用、科学技術を生かした対応とリーダーシップについて議論しました。

このコースで練習する力

研究や抽象的な考えを分かりやすく説明する力、理由を添えて意見を述べる力、相手の話を聞いて質問する力を、具体的な活動の中で練習します。共同モデルの制作では、異なる視点を理解し、重要な要素を話し合っ一つの表現にまとめます。

次年度の参加を検討している皆さんへ。大切なのは作品の巧みさではなく、自分の考えを表現し、対話に参加することです。英語で研究や社会について話す経験を重ねたい学生に向けたコースです。