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Design, Delivery and Refinement of a Multidisciplinary Course Exploring Creativity and Innovation using LEGO

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Abstract

A multidisciplinary course for any major was designed as a semester-long seminar for a University Honors program utilizing LEGO as a learning platform across various subject areas. Students analysed the history of the LEGO Group as a business case study to understand the innovations and strategies used to grow a multibillion-dollar toy company. Each student purchased a basic set of building blocks for in-class activities, including building and design challenges. CAD-type design software was employed to virtually create custom builds and generate instructions; students learned to design standard 3D models and 2D mosaics before physically constructing their designs. Additionally, students learned to use LEGO for stop-motion animation, producing their own short films. Utilizing LEGO Mindstorms, the class explored real-world engineering challenges by designing, building, and programming robots to solve simple tasks. Students were given the opportunity to explore their favorite aspect of the class through an in-depth final project of their own design. The course evolved over three offerings, shaped by student feedback and faculty observations. Furthermore, the course incorporated aspects of the Serious Play methodology which is used in settings ranging from primary schools to professional workplaces to stimulate communication, creativity, and problem solving. This paper details the design, delivery and refinement of the course, including an assessment of skills developed and enjoyment of the course.

Keywords: LEGO, innovation, creativity, design, animation, robotics

INTRODUCTION

LEGO is officially the most recognized brand in the world (The RepTrak Company, 2025) and has held the top spot in the global RepTrak 100 annual survey of the most reputable companies in the world five of the past six years (The LEGO Group, 2025). The universal appeal of LEGO and shared experience

of using the construction system make it an ideal platform for learning at any age, applying creativity and ingenuity to build from basic blocks with unlimited possibilities. From humble beginnings in Denmark creating wooden ducks in 1932, to the creation of the interlocking brick system in 1958, the LEGO company has grown into a billion-dollar company (Andersen, 2022; Mayes, 2025). In 2024, TIME magazine dedicated an entire special edition of their magazine to LEGO, proclaiming it "The Toy That Changed the World" (The Editors of TIME, 2024). The toy has grown beyond a childhood plaything, with LEGO increasingly recognizing its popularity among older generations, releasing sets marketed to their Adult Fans of LEGO (AFOLs) and facilitating a LEGO Ambassador Network to connect adult fans of LEGO with the LEGO company for feedback and communication (The LEGO Group, 2026a). LEGO has even established the LEGO Ideas program to let fans create their own sets, share them online, and vote on their favorite. The top-ranking sets each year are produced as official LEGO sets with the designer earning a portion of all sales. (The LEGO Group, 2026b).

The LEGO Group developed a professional adult application of their system of play based on a model of communication and brainstorming that emerged in the late 1990s called the Serious Play Method (Roos & Victor, 1998; Gauntlett, 2015) based on the educational theory of constructionism, which focused on student-centred discovery learning by making tangible objects. (Harel & Papert, 1991). This concept was developed as an approach to facilitate strategic imagination through unconventional activities (Roos & Victor, 1999). This concept was presented to the LEGO Group which led to the formation of the Executive Discovery Company to develop the Serious Play methodology using LEGO products (Blair & Rillo, 2016). The process was refined within a framework of psychological and educational theory in corporate settings to address the challenge related to interpersonal communication and produced useful academic results and also showed practical value for facilitating meetings. (Roos et al., 2004; Kristiansen & Rasmussen, 2014). Corporate applications help with goal setting, team building, idea generation, communicating values, shaping behaviours, and producing a shared vision (Blair & Rillo, 2016). In preparation a Serious Play facilitator will establish objectives for the workshop and develop questions that will instigate deep reflection. In the session participants will be given building challenges and only a few minutes to complete them; they will share the meaning behind their metaphorical model and reflect as a group on the themes that arise. One example of a prompt could be "Build a model that shows a decision you need to make and what is stopping you from making it" (Blair, 2020). The discussion after the build is more important than the actual construction process; with LEGO being the medium to help people express concepts that may be difficult for them to verbalize when asked directly. Resources exist for adapting the Serious Play method for educational settings from elementary ages to colleges (Isaac, 2022). Serious Play has also been applied to enable family communication and bonding (Laybros, 2024).

LEGO has long been used in educational settings, with many sets designed specifically for educational use like MINDSTORMS and SPIKE PRIME from elementary school to college settings. Launched in 1998, MINDSTORMS integrated software control into the LEGO system of play for robotic creations, a move that proved highly successful in educational settings (Afari & Khine, 2017; Petrovič, 2021). These systems served as the foundation of the global FIRST LEGO League Competition for grades 4-8; today the competition uses LEGO SPIKE Prime, which has succeeded the MINDSTORMS product line (FIRST, 2026). Beyond primary education, LEGO is used extensively at the college level to teach subjects ranging from computer science to art and business (Ng Yong Liang et al., 2021). The MINDSTORMS system, in particular, is well documented for its utility in computer science and engineering programs for algorithm and embedded system design. (Williams, 2002; Cliburn, 2006).

Integrating LEGO robotics into programming courses increased student motivation and engagement with complex concepts (Álvarez & Larrañaga, 2013). By using such a familiar platform, educators can reduce student anxiety and program dropout rates (Álvarez & Larrañaga, 2016; Thomas & Paravantes, 2018).

LEGO has gained significant popularity in the entertainment industry with the success of the computer-animated LEGO Movie, its sequel, and related LEGO Batman, Ninjago and Pharrell Williams films. Many of the vehicles, structures and scenes featured in the movies were reproduced and sold as commercial sets (The LEGO Group, 2026d). Additionally, the popular show LEGO Masters has aired five seasons in the US with a sixth in production. In the show, pairs of contestants are given creative building challenges and access to a wide variety of elements to construct extensive sculptures in less than a day. Throughout the season, contestants are eliminated by a pair of judges until the remaining pair are crowned the "LEGO Masters" of that season. (The LEGO Group, 2026c). Some of the models created during filming are preserved and displayed worldwide at LEGO stores or LEGOLAND amusement parks.

Honours students at the author's university are required to take at least one honours seminar, which is a multidisciplinary special-topic course open to any major. The authors share a passion for LEGO and collaborated to explore how the system could be used as a university-level learning platform to provide a rich, meaningful, and engaging educational experience with minimal stress. To ensure broad appeal, the curriculum covers topics in business, media arts, and engineering. The course is designed to be hands-on, allowing students to create using LEGO. The seminar has been taught three times for a total of 49 students: 20 in the spring of 2022, 13 in the spring of 2023, and 16 in the spring of 2025. The course is titled "HNRS3900, LEGO: A Medium of Limitless Possibilities."

Expected learning outcomes for the course

- Understand the role of innovation in a corporation
- Generate build instructions for digital 3D designs created with and without a physical model
- Convert digital images into pixelated art with aesthetic considerations
- Use design and building skills to create a comprehensive narrative in a fully developed animation project with critical consideration of frame rate and animation aesthetics.
- Demonstrate the engineering design process with iterative problem solving
- Think critically about interactive systems, user needs, design goals, functionality vs. usability.

Course Delivery Method

Class will consist of a discussion of the assigned reading for the week. Then new topics will be introduced to build the foundational knowledge for the day's project. Students spend the remaining time working in groups to make LEGO creations following artistic and technical design criteria. Some projects will require out of class design, construction or composition work.

Required Course Materials to be purchased by each student

1. *Brick by Brick: How LEGO Rewrote the Rules of Innovation and Conquered the Global Toy Industry* by David Robertson and Bill Breen, ISBN-10: 9780307951618, ISBN-13: 978-0307951618

2. *The LEGO Animation Book: Make Your Own LEGO Movies!* By David Pagano and David Pickett, ISBN-10: 1593277415 ,ISBN-13 : 978-1593277413
3. LEGO® Medium Creative Brick Box, LEGO Set 10696 (484 pieces)
4. One or more LEGO minifigures of the student's choice

The total cost of the books and LEGO needed for class is around $60 (USD)

Course Modules

1. History and usage of LEGO
    a. Assigned reading and class discussion of "Brick by Brick"
    b. "LEGO Masters" build challenges in class based on the TV show
2. Bricklink Studio for Design
    a. Learn how to use Bricklink Studio
        i. Create a design from an existing build
        ii. Create a design without pre-building (completely digital)
        iii. Generate instructions for your design
    b. LEGO Ideas - design set to be eligible for the LEGO Ideas program
3. LEGO Art
    a. Learn how to use LEGO Mosaic Maker software to create 2-D art
    b. Students design their own Mosaics, vote on the best one
    c. Using Mosaic Maker Kit ($130) make the class favorite
    d. Guest Speaker: Professional LEGO Builder/Artist
4. LEGO Animation
    a. Discussion of the LEGO movie franchise
    b. How to create Stop Motion "The LEGO Animation Book"
    c. Produce individual stop motion LEGO videos
    d. Guest Speaker: Professional LEGO YouTuber
5. LEGO MINDSTORMS
    a. Learn the history of MINDSTORMS and evolution of the sets/capabilities/examples
    b. Learn the Programming System for LEGO MINDSTORMS
    c. Make pre-designed robots in groups
    d. Adapt robot for Problem Solving
6. Final Project
    a. Student choice, expanding on a topic from class
    b. Present to Class

A Business Case Study on Innovation

One of the core texts chosen for the class is Brick by Brick: How LEGO Rewrote the Rules of Innovation and Conquered the Global Toy Industry (Robertson & Breen, 2013). This text was selected because it chronicles the LEGO Group's growth from inception to the early 21st century. It highlights key innovations while identifying several missteps that nearly bankrupted the company. Used as a business case study during the first half of the course, two chapters are assigned for reading each week for six weeks. Students post responses to discussion questions in a journal; many of these questions relate to personal experiences, such as "What was your first experience with LEGO?" or "What does

LEGO's principle of authenticity mean to you?" Once each week, the instructors recap the chapters and present the discussion questions. We ask for volunteers to share their responses or call on students to participate, ensuring that every student has an answer prepared if they completed the assigned reading and journal. With two 75-minute classes each week, we limit book discussion to less than half of one session, or approximately 15–20 minutes per chapter. There are additional supplemental readings assigned from news articles for discussion about the colour palette of LEGO (Brickset, 2016; Clarke, 2024) and the history of LEGO and gender with regard to set design and marketing choices (Pearson, 2014; Russell, 2021).

Building Challenges and Design Software

In an adaptation of the competitive format seen in the television series LEGO Masters, students participate in a series of progressive building challenges. Initially, students are grouped into pairs and tasked with constructing a realistic piece of fruit, followed by a recognizable cartoon character, within the constraints of a single class period. During this phase, the "tower building" exercise from the Serious Play methodology is introduced as a foundational task; however, this exercise is also suitable for the first day of class as an introductory icebreaker. Moving forward, there are plans to further expand the use of Serious Play to enhance group discussions and peer-to-peer communication regarding the creative process to facilitate deeper reflection on the metaphorical meaning of the builds. Subsequent challenges require the integration of BrickLink Studio software for the planning and production of formal build instructions. These assignments include the recreation of a cinematic scene and the engineering of a functional light fixture. The latter must incorporate translucent elements and be designed to be illuminated by a smartphone flashlight. For all these tasks, students are restricted to the components found within a single LEGO Medium Creative Brick Box (Set 10696), which necessitates creative problem-solving within a limited inventory.

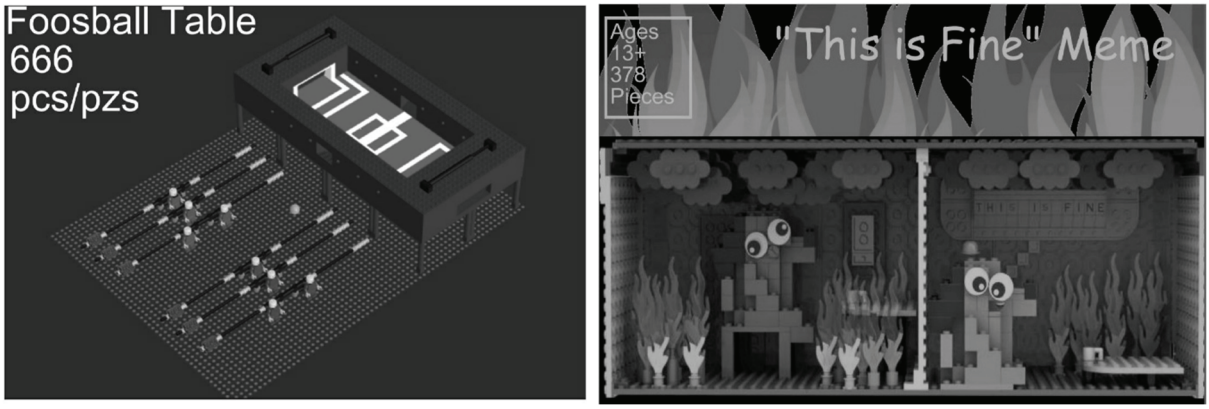
The curriculum culminates in a collaborative project where pairs create an original model and a corresponding set of assembly instructions. While the designs are limited to 500 pieces, students are granted access to the entire BrickLink Studio parts library. These projects must adhere to the official LEGO Ideas submission guidelines, requiring students to consider both conceptual originality and the clarity of their generated instructions for an external user.

To facilitate the digital design of LEGO models for the latter building challenges, the course utilizes BrickLink Studio, a CAD-based software platform. This free-to-access program features an extensive library of nearly every LEGO element and allows for the intuitive creation of 3D models and 2D mosaics. Completed designs can be transformed into professional-grade instruction manuals and exported as PDF files, mirroring the quality of official LEGO Group documentation. Following an in-class demonstration, students complete a series of training modules led by LEGO Masters Season 1 runner-up Boone Langston (Boone Builds, 2022). These modules require students to replicate complex digital builds to gain software proficiency. Subsequent coursework bridges the gap between physical and digital construction. Initially, students are tasked with building a physical object from a curated kit of 484 pieces, adhering to a specific theme and a 50-piece limit. Once the physical model is complete, students must reverse-engineer the object within the Studio software to produce a digital version. Limiting the part count ensures the task remains manageable and prevents the use of internal "hidden" sub-assemblies that would complicate the digital reconstruction process.

The pedagogical focus then shifts to a "digital-first" workflow. Students must design an original model digitally, generate step-by-step instructions, and then attempt a physical assembly based solely on those instructions. This exercise highlights the discrepancy between digital environments and physical reality; students frequently discover that digital models may lack the structural integrity or connectivity required to remain stable in a physical environment.

This foundational knowledge culminates with a larger-scale creation using the full digital library with the creation of the original model compliant with LEGO Ideas submission guidelines. The efficacy of this approach was demonstrated in the Spring 2021 semester, when a student designed a fully functional LEGO foosball table. While not submitted for commercial consideration, the design preceded the official 2022 release of a similar LEGO Group set, illustrating the high level of industrial relevance achievable through student innovation (The LEGO Group, 2022).

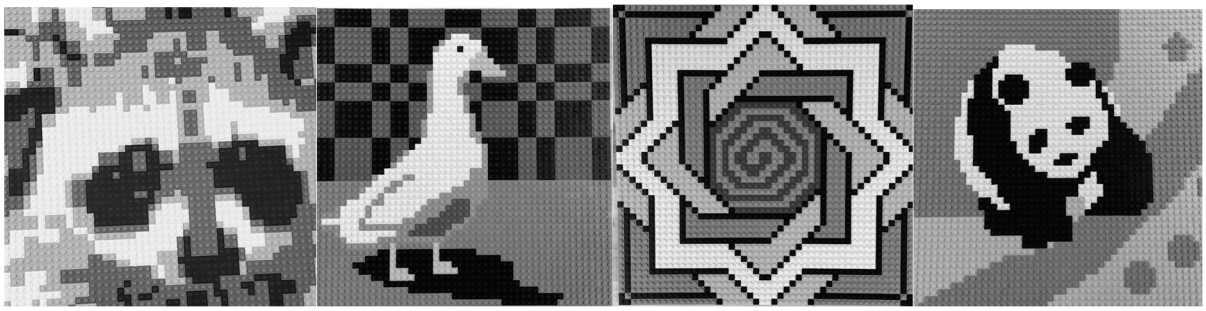
Picture 1: Student Designed LEGO sets, Foosball Table (Left) and "This is Fine" Meme (Right)



Mosaic Design

The curriculum includes an overview of the history of mosaic art, tracing its evolution from ancient Roman tile techniques to contemporary LEGO-based installations. During this historical exploration, students are introduced to four essential design elements—negative space, balance, pattern, and repetition—alongside the rule of thirds as a primary compositional principle. Building upon this theoretical foundation, students utilize digital tools such as PixelME and Mosaic Art Maker to experiment with the conversion of photographs into pixelated art. Technical proficiency is further developed through a video tutorial on the Mosaic Maker feature within BrickLink Studio. This software allows for the transformation of images into LEGO mosaics while simultaneously generating precise brick counts and assembly instructions. For the practical application of these concepts, students are organized into groups to design three distinct mosaics: two individual projects and one collaborative work. Designs are strictly constrained to the color palette of the LEGO Mosaic Maker (Set #40179), which includes black, white, light grey, dark grey, and yellow (The LEGO Group, 2026e). Following the digital design phase, each group selects one of their three models for physical assembly during class.

Picture 2: Examples of mosaics designed and built by students



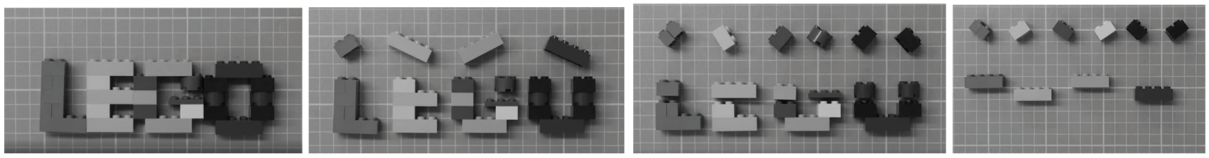
Animation

The final module of the media curriculum introduces students to the techniques of stop-motion animation through formal instruction and the study of The LEGO Animation Book (Pagano & Pickett, 2016). By analysing a variety of existing LEGO animations, students examine the relationship between frame rate and the perceived quality of motion. Two primary tools are utilized to facilitate production: Stop Motion Studio, a mobile application for accessible production via smartphone, and Dragonframe, the industry-standard software utilized in the Academic Media Centre's Animation Lab. This dual-tool approach allows students to practice animation both in a residential setting and within a professional studio environment equipped with specialized lighting and cameras.

Following this technical introduction, students complete two distinct projects:

- Task 1: Individually students animate the construction or deconstruction of a 2D mosaic or simple 3D build. This animation shows viewers the build come together or come apart piece by piece. Students learn the basics of animation by sequencing photos and composing their subject in the frame. Final animations are shared on YouTube for screening in class.
- Task 2: In groups of three or four, students animate a 15 to 30 second Minifigure scene based on lessons from the LEGO Animation Book. Students must plan their scene using storyboards, give their narrative emotional weight through sound effects and music, and utilize at least two camera angles and upload their videos to YouTube.

Picture 3: Animation Deconstruction



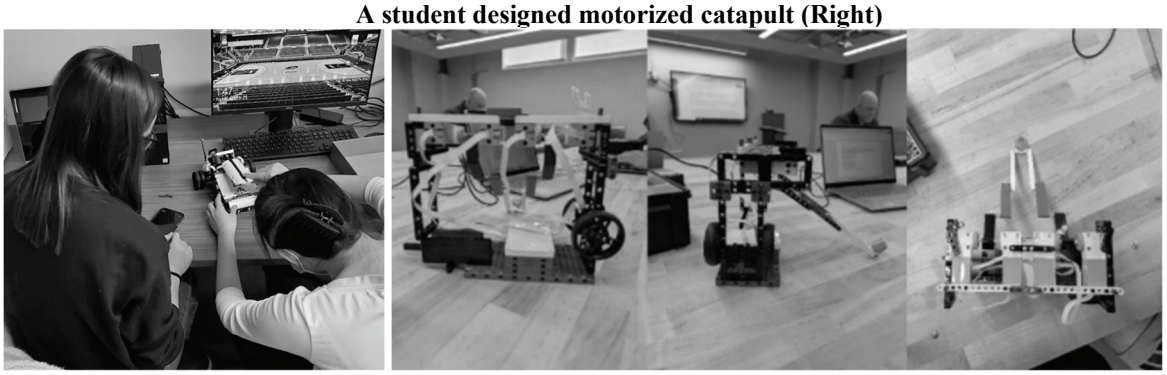
Picture 4: Frames from Minifigure Animation videos

Robotics

To incorporate STEM (Science, Technology, Engineering, and Mathematics) disciplines into the curriculum, the course includes a unit on robotics utilizing LEGO MINDSTORMS Robot Inventor sets. Although these sets debuted in 2020 and were retired in 2022 (The LEGO Group, 2020), the Robot Inventor Hubs remain supported as of early 2026 and are also compatible with the SPIKE Prime application (The LEGO Group, 2026f; 2026g). Students receive instruction on the history of the MINDSTORMS platform and the fundamental principles of LEGO robotics through a combination of in-class lectures and supplemental video modules. The unit focuses on two primary objectives: mastering complex assembly methods and utilizing a graphical programming language to direct robotic behaviour. Dedicated classroom time is provided for students to test and refine their code through an iterative development process.

- Task1: In groups students would assemble one of designs from MINDSTORMS' Robot Inventor set (Charlie, Tricky, Blast, MVP, and Gelo) to learn the programming and assembly techniques. Then students are challenged to build and modify their bot to navigate a course outlined on the classroom floor.
- Task 2: Lastly, students are challenged to design and build a catapult, competing to launch a ball the highest and furthest. Students are allowed to test their build twice and make changes before competing for their final score.

Picture 5: LEGO MINDSTORMS Robotic Projects: Building a vehicle (Left)
A student designed motorized catapult (Right)



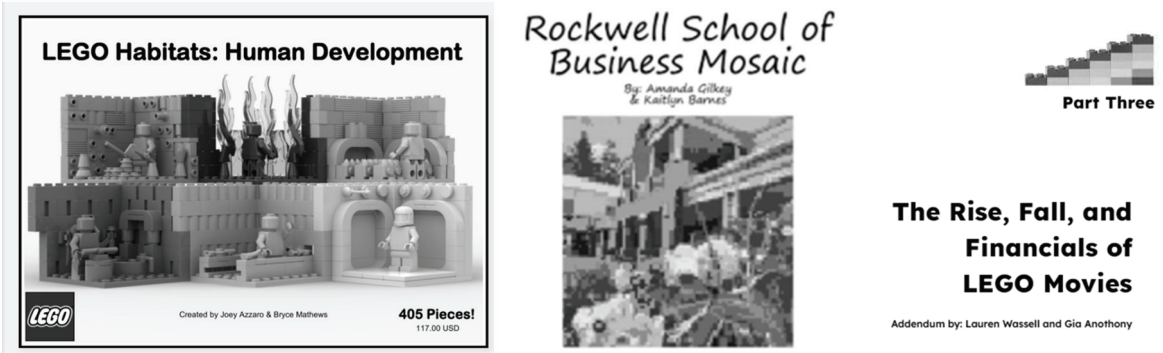
Final Project

The final weeks of the semester were reserved for a significant project allowing deeper exploration into one of the course topics. During the first offering of this course, each team of 4 students was required to do a LEGO MINDSTORMS project and model it in Bricklink Studio. This project was not popular with the non-STEM students in the course, and one student on each team usually did all of the digital design modelling, which created a team imbalance. Based on student feedback, the final project was expanded to allow students to pursue projects of their interest, allowing more depth in one of the topic areas of the class. Projects topics fell into three areas: innovation (business), creativity (arts), and problem solving (STEM)

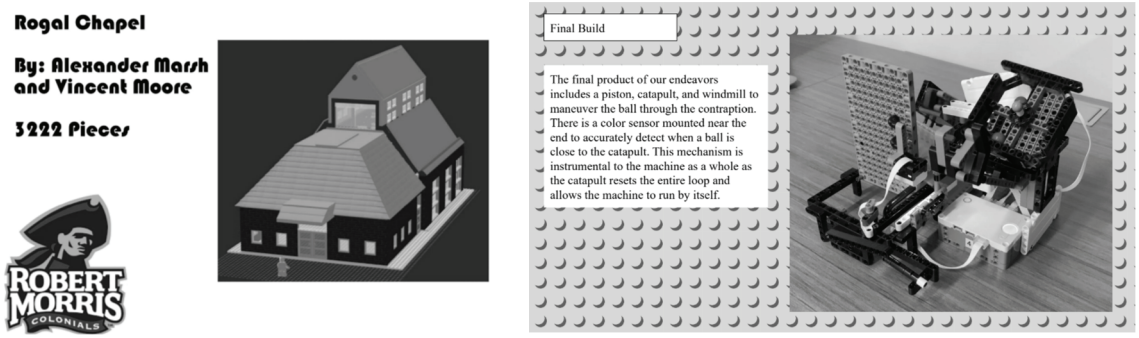
Table 1: Final project options and examples of student projects completed

Topic	Prompt	Student Projects
Innovation	Business Pitch: Consider product lines like Bionicle, MINDSTORMS, LEGO Art, LEGO Ideas, etc. Propose your own new product line venture for LEGO with design ideas for products and a marketing plan. Keep in mind the lessons you learned about the LEGO system of play and the 7 truths of innovation and show how your product pitch connects with them.	Created a marketing pitch and set ideas for a collaboration with the NFL
	Addendum to the textbook: Research and write additional chapters to the "Brick by Brick" book for each member of your group (one chapter per person). Describe how the 7 truths of innovation have been applied to more recent developments after 2013. Possible Chapter Topics: LEGO Movies, LEGO Art, Spike Prime and the end of MINDSTORMS, LEGO Mario, Brickheads, LEGO Friends, LEGO Dots, evolution of LEGO Ideas, or any other approved topic.	Wrote two chapters about the development and success of the LEGO movies.
Creativity	Animation: Recreate a 30-second Super Bowl Commercial in LEGO and overlay the audio from that commercial.	Bouncing QR code (USA TODAY Sports, 2022)
	Art: Design a mosaic that is 96 by 96 or equivalent on using the LEGO ART platform Brick (part number 6302092) with a LEGO Frame around the outside. Create an instruction set that includes information about the theme and the inspiration for your mosaic. Include a bill of materials and submit a cost estimate sourcing all parts needed.	Created a framed picture of a garden on campus
	Bricklink Design: Review the Monochrome Habitat video (Beyond the Brick, 2023) or a set of your choosing Create an instruction set that includes a bill of materials and part count. Also submit a cost estimate sourcing all parts.	Created habitats representing human development, Designed the campus chapel
Problem Solving	Great Ball Contraption (GBC): Design and build a module following rules set forth by the GBC (Hassenplug, 2005) as closely as possible given the limitations of Set 51515, LEGO MINDSTORMS Robotic Inventor. Create an instruction set with a bill of materials.	Designed a GBC that moves a ball in a continuous loop in the system.
	Propose your own robotics project using set 51515, LEGO MINDSTORMS Robotic Inventor, to design and program a robot to do a common task or solve a problem.	Designed & built robot that picks up and color sorts LEGO.

Picture 6. Final Projects: Colour Habitat Design (Left), Mosaic (Centre) Book Chapter (Right)



Picture 7. Final Projects: Design of a building on campus (Left), Great Ball Contraption (Right)



Results

Students were administered pre- and post-course surveys to assess learning growth and gather feedback; the full survey is provided in Appendix A. A total of 45 out of the 49 students who completed the course submitted both surveys. For the skill and experience questions, students self-assessed using a five-point Likert scale (none, novice, intermediate, advanced, and expert). These responses were coded to numerical values (0–4), and a selection of results is illustrated in Picture 8.

Pre Survey

Answer Choices for 1-11: (None, novice, intermediate, advanced, expert)

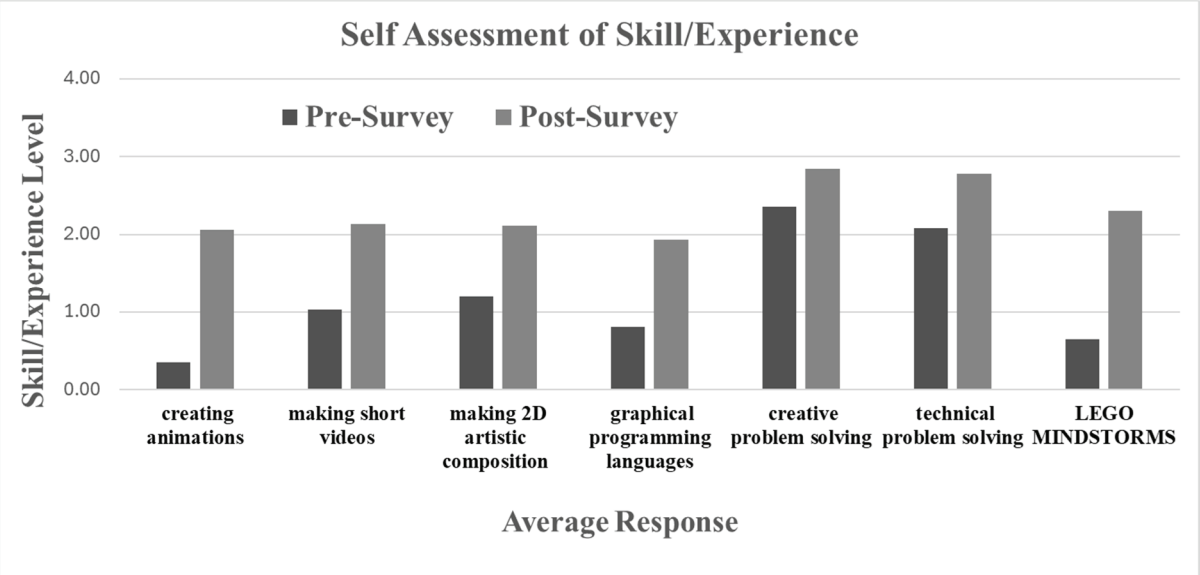
1. How would you rate your skill level with animation?
2. How would you rate your skill level with making short videos (YouTube, TikTok, etc) ?
3. How would you rate your skill level with making 2D artistic composition (photography, drawing, painting, sketching)
4. How would you rate your current knowledge of programming?
5. How would you rate your skill/experience level with graphical programming languages like scratch or LabView?
6. How would you rate your skill/experience level with C++ or Java?
7. How would you rate your skill/experience level with the Python programming language?
8. How likely will you be to incorporate programming into your employment after you graduate? (1 not very likely to 5 being very likely)
9. How would you rate your skill level with creative problem solving?
10. How would you rate your skill level with technical problem solving?
11. How would you rate your skill level with LEGO MINDSTORMS?
12. Have you ever used a business case study in a course before? (Y/N)
13. Have you studied innovation before? (Y/N) If yes, in what context?
14. How much do you think concepts taught in this course will help you in everyday life? (1 being never and 5 being very often)
15. How many hours a week do you expect to dedicate to this course? (2 or less, 3 to 5, 6 to 9, 10 to 12, more than 12)
16. Describe your personal experience with using LEGO (Duplo, LEGO, Technic, MINDSTORMS, etc)
17. Why did you choose this course and what do you hope to gain from it?
18. What is your favorite LEGO set and why?

Post Survey

Question 1-11 are the same as the Pre-Survey

12. How many hours a week did you dedicate to this course? (2 or less, 3 to 5, 6 to 9, 10 to 12, more than 12)
13. How difficult did you find this Honors Seminar course? (1 being very easy and 5 being very difficult)
14. How enjoyable did you find this Honors Seminar course? (1 being you did NOT enjoy this course to 5 being you DID enjoy this course)
15. How much do you think concepts taught in this course will help you in everyday life? (1 being never and 5 being very often)
16. Would you recommend this course to a friend? (Y/N)

Picture 8: Student self-assessment of skill and experience in topic areas covered by this class, a comparison before and after the course.



The results indicated that students initially had very little experience producing creative works, such as animations, videos, or artistic compositions. Additionally, most participants reported low levels of experience with graphical programming languages or LEGO MINDSTORMS; however, proficiency in all of these areas grew significantly throughout the course. While most students entered the course with high opinions of their creative and technical problem-solving skills, these areas showed measurable growth as well. Furthermore, only 16% of the students had previously taken courses involving business case study analysis or the specific study of innovation—competencies that all students gained by the conclusion of the course.

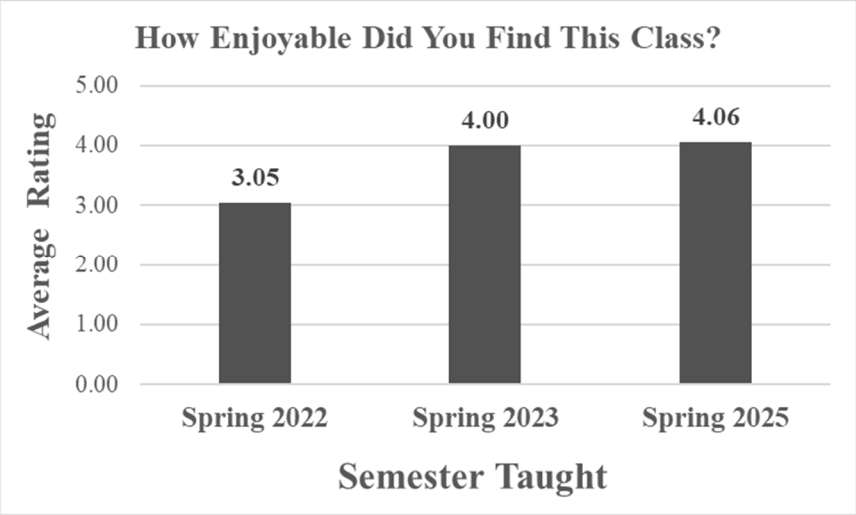
Notable student feedback on the course

- An enjoyable course studying LEGO as a business and as a medium for creative expression.
- I loved this course, it challenged me and I learned new skills that I did not have from previous courses here at RMU
- It was well organized, well executed, and a surprisingly good break from my intense classes
- I really enjoyed having the creative diversity for the final project, as I believe allowing students to choose what they are passionate about was a great choice for a final project
- I admire (instructor's name) passion for the subject material and the depth with which he explored it; I especially enjoyed the animation section and wish it had also been a bit longer..

- I really liked the partner work throughout the course, it was helpful and inspiring to hear another person's thoughts and helped develop the brainstorm farther to create something really cool
- Favorite part of the course was when we worked with the physical LEGOs, the mindstorm and the building challenges
- I love LEGO class. literally my most endearing college experience.

Due to student feedback, the course evolved over three offerings. After the first year, the schedule was changed from a single three-hour weekly meeting to two 75-minute sessions. The duration of book discussions was reduced to allow for additional project work. The book discussion initially received the most negative feedback of any course activity. To address this, the authors plan to adapt the Serious Play methodology for the fourth offering to infuse the activity with hands-on participation. As time allows, specific discussion questions will be selected that lend themselves to being expressed through a LEGO build. Students will be given a few minutes to build their response to a question, followed by a session where several students share both their models and their reasoning. If the sharing process moves quickly, additional questions can be addressed; otherwise, one significant question per chapter may occupy the allotted discussion time. Before the second offering of the course, the final project was redesigned, shifting from a four-person robotics project to a partner-based assignment where students have the freedom to choose the subject and project type. As a result of these changes, student enjoyment ratings increased by nearly a full point on a five-point scale by the second offering.

Picture 9: student enjoyment of the course separated by year



Conclusions

A multidisciplinary course was developed to explore business innovation through a detailed corporate case study, creative expression through artistic design and animation, and technical problem-solving via robotics. Students from diverse academic backgrounds engaged with the material, developing new skills and analytical frameworks. The curriculum demonstrated that LEGO is an effective educational platform that extends far beyond its reputation as a childhood toy. In this context, students moved beyond play to design with purpose—professionally documenting their creations for dissemination and reproduction. Furthermore, participants tested and refined structures and code, optimizing their designs

toward specific performance goals. Finally, students conducted a deeper exploration of the medium, applying LEGO to their personal passions and intellectual interests to produce unique and inspiring results. The course has evolved based on student feedback, resulting in a steady increase in student satisfaction. Future iterations will continue this evolution by integrating Serious Play methodology into the textbook discussions to maintain active student engagement across all disciplines.

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