Project Charter

Project Name: 4th/5th grade Engineering Learning Project Start Date: 1/10/2023 End Date: 5/8/2023

Purpose Statement

The goal of this project is to educate grader students the importance and value of engineering in our real world society. As engineering students, we must cooperate with educational students in constructing a creative and learning plan for younger students about the concepts of fluid mechanics. The other part of this project is to create and design a prototype of a certain topic in fluid mechanics based upon each younger student's interest in engineering.

Team roles and responsibilities

Engineering Members	Education Members
Rayshad Lindsay	Meredith Heath
(Communication and Project Manager)	(Recording Manager)
Bryan Credo	Andrew Quentin Gay I
(Technical Leader)	(Leading Teacher)
Taleah Cook (Project Manager in Engineering)	Katherine Neuman (Project Manager in Education)

Benefits - Engineering and Educational Students

- High potential employment
- Deeper understanding in fluid mechanics
- Sharpenes entrepreneurship skills

Benefits - 4th/5th Grade Students

- Interest in the STEM field of engineering
- Gain fluid mechanics learning experience with college student

List of deliverables

TASK DESCRIPTION	ASSIGNED TO	START DATE	DUE DATE	% COMPLE TE	STATUS	Progress Notes for Team Communication
SUBMIT ELEMENTARY CLASS VISIT POWERPOINT DRAFT	All members	1/31/2023	2/8/2023	100%	Complete	Needs some revisions for the class visit
SCHOOL VISIT Presentation	All members	2/8/2023	2/9/2023	100%	Complete	
PEER TEACH DRAFT POWERPOINT	All members	2/12/2023	2/14/2023	90%	In progress	The powerpoint must recorded and presented for both team
POST LESSON EVIDENCE OF LEARNING - Engineering Concept and Lesson Plan	Engineering members (Engineering concepts) And	2/14/2023	2/16/2023	0%	Not Started	Must be recording for our sharestocks
	Education members (Teaching concepts)					
GROUP LESSON PLAN DRAFT	Education members	2/16/2023	2/28/2023	0%	Not Started	
ENGINEERING STUDENT PRESENTATION DRAFT	Engineering members	2/16/2023	2/28/2023	0%	Not Started	
SUPPLY LIST	All members	2/28/2023	3/4/2023	0%	Not Started	

RECORDING OF ENG STUDENTS PRESENTATION	Engineering Students	3/8/2023	3/26/2023	0%	Not Started	
ENGINEERING LESSON FAMILY NEWSLETTER	All Members	3/20/2023	3/28/2023	0%	Not Started	
FINAL PROTOTYPE	All Members	3/16/2023	4/5/2023	0%	Not Started	
FINAL ENG LESSON	All Members	3/6/2023	4/6/2023	0%	Not Started	
GROUP PROJECT INTERVIEW	All Members	4/13/2023	4/13/2023	0%	Not Started	

Primary Budget

Cost Category	Costs
Transportation Expense	\$500
Software Applications	\$1,200
Internet Expense	\$300
Manufacturing Equipment	\$700
Food Expense	\$120
Health Insurance	\$300
Engineering supply Expenses	\$800
Material Expense	\$200
Glass Equipment Expenses	\$300
Total Cost	\$4,420

Key Stakeholders

Stakeholders	Learning interests
Teachers	Teaching performance and advising college students
Principal	Provides support the project through investment
Students	Possible future employment in engineering
Parents	Collaborating with student performances
Suppliers	High inputs on require inputs
Community members	Engaging engineering concepts
Curriculum providers	Achieving students in basis technology

Project Balanced Set of Success

Perspectives	Objectives	Initiatives					
Innovative and Learning perspective	Creating a brand new product for students	Time invested in research					
		Team staff evaluation per month					
Students Perspective	Inspire and interest in engineering	Student satisfaction rate					
Internal Process	Gain higher knowledge in engineering	Performing activities per function					
Financial Perspective	Increase Project Profitability	Number of items required for the project					

<u>WBS</u>

WBS Number	Task
1	Prototype Creation Progress
1.1	Build the prototype
1.2	Test Prototype
1.3	Refine Prototype
2	Technical Leadership
2.1	Determine the prototype
2.2	Determine the technical requirements
2.3	Manage delivery technical computer to the project
3	Communication Management
3.1	Communicate with Professors and teachers
3.2	Communicate with students about the prototype
4	Managing Prototype
4.1	Overall status of the prototype
4.2	Communicate status on the prototype
5	Scoping the project
5.1	Creating a effective lecture about the prototype
5.2	Progressing elementary students studies
5.3	Revising a lesson plan for elementary students in engineering
6	Managing Lesson Plan
6.1	Monitoring completed and uncompleted task
6.2	Education Students Communicating Manager
6.3	Recording and evaluate the project
7	Checking the progress of the project
7.1	Determining the project's checklist and achievements
7.2	Scheduling each milestones of the project
8	Executed lesson plan for elementary students
8.1	Creative thinking skills to the project
8.2	Creating activities with the elementary students
9	Assessing the supplier needs for the project
9.1	Setting objectives for cost, delivery schedules, and reliability

Uncertainty Assessment

Risk	Likelihood	Impact	Response
Lack of communication	М	Н	Creating a communication strategy
Time management issues	L	М	Constructed a time between different tasks
Misconception understanding of the Engineering topic	Н	Н	Organize a clear and highted information related to engineering
Technical difficulties	М	L	Daily check on the prototype's appearance and functions by presenting at the end of the project
Unable to reach out to professor	М	L	Notify as soon as possible during class or by office hours if possible

Budget WBS

WBS	Task phase	Level 1 Cost	Level 2 Cost	Level 3 Cost
1	Prototype Design Idea	1700	0	0
1.1	Online Team Survey		40	0
1.2	Team logo shirts and banner		20	0
1.3	Initiate Phase		150	0
1.3.1	Engineering Supplies		0	90
1.3.2	Manufacturing Machine		0	450
1.3.3	Application Engineering Software		0	200
1.3.4	School Supplies		0	100
1.4	Development Phase		300	0
1.5	Launch Phase		250	0
1.6	Performance Phase		60	0
1.7	Project closed		30	0
1.7.1	Exit project survey		10	0
	Total	\$ 1700	\$ 860	\$ 840

Network Chart



Grant Chart

Task Description	s	Jan 8 M T W	r F S S	Jan 1 M T W	IS TFS	SMT	Jan 22 F W T I	FSSN	Jan 2 vi T W	9 T F S	SMT	Feb 5 W T F	s s	Feb 1 M T W	2 T F S	S M	Feb 19 T W T	FS	Б М Т	ID 28 W T F	SSM	Mar 6 T W 1	TFS	SM	Mar 12 T W T	TFS	SM	Mar 19 T W T	FSS	м т м	lar 26 W T I	s s	Apr 3 M T W	2 T F 1	S S M 1	Apr 9 W T	FSS	Apr 1 M T W	6 TFS	SMT	Apr 23 W T	FS
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Communication Plan

Communication Activity	Purpose	Frequency/Methods	Audience
Team Touch Base	Discuss ideas, thoughts, challenges, and goals of the project	Daily/In-person	Team Member, stakeholders (if possible)
Project Planning Meeting	Setting task assignment schedule and updating milestone goals	Daily/In-person, zoom, or group chat	Team Members
Team Status Report	Outlining weekly goals and achievements of the project on a touch bases	Weekly/text or zoom	Team Members
Presentation practice	Performing a perfection lesson about engineering for students	Once/In-person	Team Members, stakeholders (as feedback)
Stakeholder status report	Summarizing the progress and feedbacks in the presentation lesson	Weekly/email or in-person	Team Members and stockholders
Review Meeting	Reviewing and Strategizing on improving the prototype and presentation	Once/In-person	Team Members
Rehearsal lesson plan	Practicing information learned from our experience in this project	Once or Twice/In-person	Team Members and Professors (as supporters)
Post Lesson Learn meeting	Reflecting on our work and how we do well in this project	Once/In-person	Team Members

Monitoring Project

The project is being monitored using Google excel.

TASK DESCRIPTION	% COMPLETE
COMPLETE SURVEYS	100%
POST BIO ON GOOGLE SITES	100%
CHARTER AND LOGO SUBMISSION	100%
SUBMIT ELEMENTARY CLASS VISIT POWERPOINT DRAFT	100%
SCHOOL VISIT AND REFLECTION (DURING CLASS TIME)	100%
PEER TEACH DRAFT POWERPOINT	100%
5E PEER TEACH, BRAINSTORM AND PROJ UPDATE	90%
POST LESSON EVIDENCE OF LEARNING (Eng Concepts & 5Es)	0%
GROUP LESSON PLAN DRAFT	0%
ENGINEERING STUDENT PRESENTATION DRAFT	0%
FEEDBACK TO ENGINEERING STUDENTS ON PRESENTATION	0%
FEEDBACK TO PSTs ON LESSON PLAN	0%
COMPLETE CATME MIDTERM SURVEY	0%
PSTs SUPPLY LIST DUE - ENG STUDENTS MUST AGREE	0%
DRESS REHEARSAL ENG LESSON	0%
SUBMIT RECORDING OF ENG STUDENTS PRESENTATION (DRAFT)	0%
FEEDBACK TO PEER GROUP(S)	0%
ENGINEERING LESSON FAMILY NEWSLETTER DUE	0%
FINAL ENG LESSON	0%
ENGINEERING LESSON/PROJECT REFLECTION	0%
POST PROJECT SURVEYS	0%
CATME POST PROJECT EVALUATION	0%
FOCUS GROUPS/INTERVIEWS	0%

Ideal Project Closure

- Project Summary
- Team Evaluation
- Elementary Students Evaluation of the project
- Elementary Teachers Evaluation of the project
- Evaluating the project's scheduling expectation
- Reevaluating the project's flaws and improvements
- Lesson Learns about this project and engineering concept