IPRO 332 “How Many Earths”

Spring 2009

Professor: Jim Braband

Final report

Abstract

In the past few years, sustainability has gone from being viewed as something people *should* do to being viewed as something people *must* do. However, being sustainable requires more than buying new light bulbs and turning off the water when you brush your teeth. The goal of IPRO 332 is to create materials to educate people about what sustainability is, as well as how to be more sustainable. In past semesters this IPRO has focused mainly on high school students, expanding to middle school students last semester. During this semester, the team has further broadened our audience to include the entire K-12 range. This semester's team worked to develop new educational materials catered to elementary school students, a new module on policy and the impact of government on sustainability, and to promote the group through the internet and events such as Irish Earth Day. We were able to test the new modules in classrooms at Pershing West and DeLaSalle. The feedback from both schools was highly positive and very constructive, and allowed us to make further changes to the two new teaching kits. In future semesters teams might work on further refining the modules we produced this semester and presenting them to more audiences.

Background

Energy can neither be created nor destroyed. This is one of two things one can know for certain about energy. The other is that energy has become increasingly scarce as demand escalates around the world.

Over the past years, "green" became the buzzword that screams for attention in every media outlet around the world. "Green" was often paired with automobiles, houses, appliances and even airplanes to advocate energy saving and the noble act of saving our planet. There are countless other things that every student can do to help save our planet. The goal of this semester's incarnation of IPRO 332 "How Many Earths" was to continue to educate young adults to become more conscious of sustainability.

This was IPRO 332's fifth semester, and it has slowly become a well-established IPRO, with the work of the previous semesters serving as a strong foundation for this semester. Initially, previous semesters took the very broad task of "creating Multi-Media Education Modules for K-12 Classrooms" and narrowed it to high school-level classrooms. Following semesters managed to produce several modules and a few teaching kits, as well as spending some time in classrooms testing these modules to see how effective they were. More recently, the task of expanding the IPRO to create modules for middle school classrooms was investigated, and a website was set up to give this project a permanent online presence. From this base this semester's team started their tenure with the project by doing extensive research, preparing various materials, and promoting awareness of the IPRO. All four previous teams reached the goal of having a well prepared program that was refined, expanded, and better promoted this semester.

The team collected existing material available via the World Wide Web and organized the information into understandable and concise teaching kits. The bulk of the teaching kits will consist of PowerPoint presentations that will introduce the students to the ideas of recycling, reusing, energy consumption, and to the idea of the Ecological Footprint. The presentations will become more interactive, which will allow the students to take part in surveys, quizzes and games.

Because this is a continuation IPRO, the current semester's team will evaluate the pros and cons of the previous semester via returning team members and the analysis of previous semester's project outcome. The team will also respond to the ideas that new members of the team have in mind, allowing the project to improve and expand.

Ethics remain one of the most important issues during the development of the project. All of the information has been kept in an un-biased and instructive form. This team as well as previous teams have accomplished this by collecting feedback from outside sources, such as teachers who we have presented with.

The current team wants to promote a strong sustainability-oriented appearance by adding to the existing official Web Page, improving the quantity and quality of the team's marketing, and refining educational tools developed in previous semesters as well as developing new ones.

Objectives

The mission of "How Many Earths?" is to educate people on the issues of sustainability and energy needs, concerns, and sources. In doing this we expanded on work that had been done in previous semesters in addition to developing modules for a wider age base. Previously the modules have been focused on high school and middle school students; this semester we developed programs for elementary school classrooms in addition to post-high school education.

The objectives that the team set were to:

1. Enhance and finish the "Cradle-to-Cradle" module, present it to five classrooms to get audience feedback, and establish an outline for a third educational module to be developed in future semesters.

2. Collect and evaluate responses from students and teachers concerning both the "How Many Earths" and "Cradle to Cradle" modules, presentation styles and the teaching kit materials, especially by implementing the feedback worksheet, and use this information to continually improve presentations.

3. Develop a program for elementary school classrooms that includes an environmental learning approach and age-appropriate modification of the "How Many Earths" and "Cradle to Cradle" modules that have been developed, develop an interest in the program, and test it in classroom settings.

4. Develop a module on Policy for high school and middle school students that includes a Teaching Kit and introduce it to five classrooms.

5. Further the development of the IPRO 332 website http://www.howmanyearths.com to update it with current information and make it more user-friendly.

6. Promote interest and exposure of our education modules by publishing stories in local media outlets and participating in three community events to promote "How Many Earths" to the general public.

7. Identify and execute a number of fundraising and sponsorship drives to help fund the "How Many Earths?" project.

8. Work to establish collaborative relationships with other sustainability-oriented organizations.

Methodology

With a growing need to raise awareness with respect to rising energy demands, the challenge of creating such awareness among young adults has been placed before us. A foundation for solving this problem has been established for this IPRO by previous classes with the establishment of a website and two educational modules for students concerning the topics of the "Ecological Footprint" and "Cradle to Cradle," which were presented to several high schools in the Chicago metropolitan area. It was the challenge of the current IPRO to investigate and implement tactics to further this awareness among individuals on a much greater scale. In order to achieve this task, questions such as: "how can this information be conveyed in new, unique ways other than physical presentation?" and "how can this information be tailored to each individual's intellect and interest levels?" were addressed and answered.

"How Many Earths?" addressed the problem of expanding the organization in a few key ways. To address the first question and establish new means of educating, the team this semester focused on creating modules with heightened interactivity and innovation in order to engage even the youngest students. Steps were also taken to market the cause of sustainability to the general public through participating in public events. In order to address the second question and tailor information for specific individuals or groups of individuals the team worked to enhance the modules and teaching kits of the previous semester and to build new

modules and interactive lessons for students at all levels of schooling. The work of the group was divided among three main subteams that focused on elementary education, high school and junior high education, and marketing respectively. This division of labor allowed us to address the problems and goals of the group overall most efficiently. Each subteam worked separately and together throughout the course of this challenge in order to achieve the final goal.

Analyzing the reactions and suggestions of our audience is essential to the perpetual improvement of the work produced by the group. Last semester the IPRO worked to expand the audience of both the Ecological Footprint and Cradle-to-Cradle modules to junior high schools while continuing to present to high schools. This semester we continued on with that work, but also created a third module on the policy and institutional issues facing America when working to make sustainable energy choices. This third module was planned to be modified also for eventual use in junior high schools as well as for the general adult public, but due to time constraints we were unable to. The new module was developed after performing research on energy policy and pollution, as well as talking with a teacher at Pershing West Magnet School to try and get some idea where this module would fit into a curriculum. A new subteam was created to focus on expanding the audience of our works to elementary school children through simplified and more interactive modules. These materials were also key to engaging young children at community events. The marketing subteam continued to pursue fundraising and sponsorship opportunities, while simultaneously working to spread awareness of the IPRO. The subteam promoted the IPRO by attending two community events this semester. Loyola's Earth Day and the Irish American Heritage Earth Day Festival in Chicago. The team planned, designed, and presented our IPRO to the community to inform about our teaching kits and what we do. We also gave ecological footprint tests which proved to be very popular and showed children how to make recycled paper. Our booths were successful in that we always had a constant flow of people asking us about what we do. The two education teams made it a priority to create worksheets to collect feedback and analyze the effectiveness of the modules and other teaching materials created. Within the high school education team it has also been a key goal to assess the progress made by teachers who use the teaching kits distributed last semester as well as creating a mechanism to follow through with students taught by the IPRO in previous semesters.

After developing the testing mechanisms described previously, each subteam worked independently to gather their results and document them. This responsibility was best left to the individual subteams as a priority to insure that it was done accurately at the most basic team level. The high school education team continued to use pre- and post-tests to document the success of the previous two modules, and created analogous worksheets to be used with the new policy module created. This subteam was then responsible for documenting these findings into an Excel spreadsheet and further assessing the findings. The same type of worksheets and tests were also produced by the elementary education

team. For these young students the feedback from the teachers was equally valuable as the student responses. The marketing team worked to set up guidelines and specific deadlines as the group travels out to local community events and works to pursue a grant. The work and writing of that final grant proposal as well as press materials created throughout the semester will be the ultimate documentation of the marketing subteam's accomplishments and achievements.

The goals of this semester's IPRO were divided into three main categories that correspond to the subteams established. Prior to the midterm presentation the group worked to assess the progress made upon all of the seven objectives established in section 2 of this plan. The remaining tasks were noted and the group worked to accomplish them by IPRO Day. Before then the group assessed the final accomplishments and created a report to analyze exactly how effective the teaching and marketing efforts of the subteams has been. This analysis was based on the previous testing and documentation outlined for all three subteams. The website was also another form of analysis for how well the group has solved the problems and issues of awareness by increasing user content and recording the number of visits. All three categories were analyzed to determine if they were a success. Finally, the results of this semester's analysis was compared to the work of last semester and used as a basis for recommendations on the possible continuation of this "How Many Earths?" IPRO.

Previous IPRO deliverables were used as a basis for this semester's deliverables. The deliverables will include the required documents listed under the IPRO nuggets. These include a project plan, an abstract statement, a midterm presentation, and a final presentation. Other non-required deliverables that were created were an improved website, more teaching kits from previous semester modules, one new high school and adult education module, and a module and teaching syllabus for elementary students. Our project notebook documented our process and incorporates ideas that future IPRO's may build upon. Our project plan and schedule guided our objectives and the timelines of their delivery. We worked united as a group to ensure that all deliverables were completed on schedule and that no one individual was unduly burdened with work.

The final version of our Gantt chart is attached at the end of this report.

Team Structure and Assignments

No changes to the team structure established at the beginning of the semester were required. This structure is detailed as follows:

Team breakdown and responsibilities:

- Team Leader: Nick Leep

- Project Manager: Charleen Colburn (main responsibility: seeing we're sticking to project plan, modifying plan)
    - Elementary School subgroup
        - **Responsibilities**: Research teaching methods, work on making the module and analyze effectiveness of the module.
        - Co-Leader: Sarah Olsen (foundation research, classroom coordination, classroom visits)
        - Co-Leader: Madison Kelly (foundation research, data collecting and analysis, classroom visits)
        - Eliza Broekere (foundation research, field trip coordinatioin, classroom visits)
        - Leah Baldwin (foundation research, data collecting and analysis, classroom visits)
        - Clayton Kimball (foundation research, module design, and classroom visits)
    - High School and Policy Group
        - **Responsibilities**: following up with work done by previous semesters of this project and development of an educational solution for high school students and adults on the topic of energy policy in the U.S. Government
        - Subteam Leader: Joe Craven (analysis of previous modules)
        - Charleen Colburn (developing policy module)
        - Chris Wolcott (coordinate feedback on the modules by collecting and summarizing surveys
        - Hiren Patel (Outreach)
    - Marketing Subgroup
        - **Responsibilities**: distributing the material produced by IPRO 332 to a wider audience and attracting more attention to this project, through such means as community outreach, printing and distribution of printed materials to more classrooms, and collaboration with the wider IIT community.
        - Subteam Leader: James Mulligan (document and poster design)
        - Tim Phillips (Teaching kit assembly and coordination)
        - Rodolfh Masangkay (Sponsorship, teaching kit assembly and coordination)
        - Nick Leep (Website design and update)

In the end, the actual contributions of each team member lined up fairly close to the responsibilities given to them at the beginning of the semester.

Team member	**Contributions**
Nick Leep	Coded redesigned website, planned and ran meetings, coordinated overall team work. Attended all community events.
Sarah Olsen	Co-led Elementary subteam, helped create 3 new elementary teaching kits, presented one kit in two classrooms (and made arrangements for this to be possible), took meeting minutes,

	attended E-Week community outreach event. Presented at IPRO Day
Madison Kelly	Researched teaching methods, help conceptualize the life cycles idea. Lead sub-group meetings. Created lesson 2 for elementary module, including content, slides and teaching kit. Taught lesson in two classes. Attended Irish Earth Day. Created poster for public events and IPRO day. Organized paper making activity for public events and classroom visits. Presented at IPRO Day.
Eliza Broekere	Attended all community outreach events, created most of one teaching kit, created poster and other materials for community outreach events and classroom visits
Leah Baldwin	Developed a lesson on the continued use or end life of paper products after they are used within the module created for elementary school students. Helped implement a lesson from the module for elementary school students into a classroom, and obtained feedback from one such implementation.
Clayton Kimball	Created the first lesson of the new Life Cycles Module, which became a template for the other lessons; recorded future and past tasks in a gantt chart, and prepared for and taught in a classroom and at a community event.
Joe Craven	Revised previous modules, researched, edited, designed, and presented Policy module, organized and attended E-week event, and led High School subteam. Presented at IPRO Day
Charleen Colburn	Researched, edited, and presented Policy module. Helped keep track of tasks and provided Clayton with lists of updates. Presented at IPRO Day
Chris Wolcott	Created ecological footprint calculator feedback form, Created pollution and energy policy flow diagrams for policy module, edited Simpsons movie clip
Hiren Patel	Revised previous semesters' modules and teaching kits; helped work on the policy module; presented Policy module in classrooms; made IPRO Day poster.
James Mulligan	Led Marketing subteam; attended all three community outreach events; helped set up book drive; created marketing plan
Tim Phillips	Set up Irish Earth Day event; attended Irish and Loyola Earth Day events
Rodolfh Masangkay	Organized Loyola Earth Day event and book drive. Contacted Tech News and IIT Today to advertise book drive.

Budget

Our initial budget was as follows:

Item	Cost	Purpose
Elementary Ed. Team		
Classroom teaching	**$250**	Paper, notebooks and plant

supplies		supplies for interactive sustainability lessons
High School Module Team		
Teaching Kits	**$250**	Distributing to teachers
Marketing		
Press Kit	**$30**	Informing and gaining sponsorship
Posters/Flyers	**$100**	Advertising public events
Business Cards	**$25**	Team use and distribution
Entire Group		
Public Event Registration	**$100**	To promote sustainability and achievements
Gas	**$100**	Transportation to events and classroom visits
Website server	**$30**	To maintain HowManyEarths.com
Team items (shirts, buttons)	**$80**	
Team Building	**$100**	For pizza and such
Total	**$1065**	

In the end we did not end up spending as much as anticipated. In addition, we held a book drive to help defray some of the costs. The book drive will end Thursday, May 14, 2009, so at this point our final income from it is unknown. Our total actual costs, though, are summarized as follows:

Money Spent	Reason
$75	Pizza for team building event
$50	Irish Earth Day event registration
$120	Materials for public events and elementary presentations

Code of Ethics

Overarching Principle: Increase awareness about sustainability and energy issues by creating and disseminating educational materials throughout the Chicagoland area.

1) Law

Canon: The team will work to ensure that all researched information used in creating educational resources shall be accredited appropriately within state and federal copyright laws.

Pressure: Researching copyright may be time consuming within a semester system of deadlines.

Pressure: Using materials prohibited by copyright may increase attractiveness of materials for student audiences.

Risk: Using materials and failing to look into copyright limitations by law for reproduction and use in order to save time perceived legal culpability of wrongdoing.

Measure: To ensure that team members follow this canon and all relevant laws, a system of peer reviews for all work within the project will be implemented. Also sources of research will be limited primarily to open government documents with any exceptions documented in the work created.

2) Industry Standards

Canon: The team will work to assure all educational classroom materials created are in compliance with local curriculum standards.
Pressure: Limited time to review curriculum before presenting materials in classrooms.
Risk: Failing to locate local curriculum standards.
Risk: Presenting inappropriate or irrelevant materials in classrooms.
Measure: Team members will work to research appropriate curriculum standards and in the absence of this information will meet with teachers in order to present appropriate and impactful materials to students.

3) Industry Standards

Canon: The team will always be prepared properly and act professionally when presenting in a classroom setting.
Pressure: Running late for class presentations.
Pressure: Personal engagements limit time for preparedness.
Risk: In order to present materials in classroom, the team may show up unprepared as a whole. This may occur through individual lack of commitment or team assignments of unqualified individuals to present.
Measure: Team members responsible for classroom presentations will be required to meet several times before final presentations in order to practice and be familiar with all materials necessary.

4) Community

Canon: The team will act as role models for students by always being prepared properly and acting professionally when attending events and representing the mission within the community.
Pressure: Have high team attendance at scheduled community events.
Pressure: Engage many people in team mission and projects within the community.
Risk: Bringing unprepared and ill-informed team members to community events and failing in attempts at community outreach.
Measure: As a precautionary measure to follow this canon the team will meet and overview the goals and semesters work before community affairs in order to present unified message in community outreach.

5) Personal Relationships

Canon: Each team member shall be respectful of others' personal and professional values, opinions, and contributions.
Pressure: Conflicting values and opinions of team members.
Risk: Members rudely reject values and opinions of others.
Risk: Members do not ask or consider feedback or contributions of others.
Measure: Early in the semester the team worked to establish a set of team values in a rubric outlined with exemplary through inadequate qualities to be exhibited for each value. The values include commitment, cooperation, participation, communication, and contribution.

6) Personal Relationships

Canon: Each team member shall be respectful individuals in collaborative efforts.
Pressure: Make your own work on the project look good and complete.

Risk: Make a mistake on a task assignment and hide it from the rest of the team.
Risk: Unfairly criticize the work of another team member to make your own work on the project look better.
Measure: Team members will work to apply the team values and the associate rubric to dealings with all individuals throughout the semester; analogizing the ideal criteria to be used in all collaborative efforts will be encouraged by the team leader in all applicable situations.

7) Personal/Moral Values

Canon: The team will not require members to participate in actions which violate personal, moral or spiritual values.
Pressure: Make revenues in order to distribute information and teachers kits.
Pressure: Make revenues for use in marketing in order to increase funds and gain project sponsorship.
Risk: Selling materials to teachers and marketing educational materials for profit.
Measure: Team members will work within the project and community to establish a system of fundraising and for sponsorship. Extra care will be taken to follow this canon in the way that the funds are used, which will be limited to the production of materials related directly to the mission of the team.

Results

In this semester, we managed to meet most of our objectives. Even though we had some difficulties in meeting our objectives as a team, we still had results that met all our expectations as a team and as an individual. We tried also to put aside our differences to obtain achieve our goals for this semester. To point the results that we have achieved, we have to break down the results by sub-teams.

The marketing team attended three different events that promoted our vision as a team. The three events were the Engineering Week in IIT Rice Campus, Irish Earth Day Event and Loyola Earth Day Event. In all of these events, we also distributed Ecological Footprint Survey which was also use din the previous semesters. The marketing team also thought of some events that will raise funds for our team. In response to this, we coordinated with Better World Books to hold a book drive event in IIT Campus. As of now, the book drive is still ongoing in the campus. We expect to raise funds of at least $300. As for our website, HowManyEarths.com, we already have a complete layout for the website.

For the elementary and high school team, we visited four classrooms in DeLaSalle and Pershing West schools to educate students about sustainability and energy conservation, as compared to the original plan of visiting five classrooms this semester. We also got feedback from different teachers on the schools we visited on how to improve our sessions with students. We developed teaching kits for teachers to help them promote our goals to their respective students.

Obstacles

The largest obstacle faced by the groups was scheduling presentation times to teach in classrooms. In addition to the difficulties faced in simply contacting the schools and teachers, there were several major roadblocks which made this task even more difficult. By the time the kits had been finalized enough to be presented, a series of three major issues stood in the way of presenting. First was the IIT spring break, during which most of the students in the IPRO were not available to present. Second was the Chicago Public School spring break, during which none of the schools were available to present to. Third was a large block of standardized testing which made it impossible to get into any schools for several weeks. These obstacles were resolved to some extent by working to expand the list of contacts, as well as being persistent with the contacts the team already had. In future semesters this obstacle could best be addressed by working harder to get the materials ready to go into classrooms sooner.

Another large obstacle faced by the team was finding events to attend to generate publicity. In previous years the team had attended the Lincoln Park Zoo Earth Day Celebration, which was a highly successful event for previous teams. However this year that event was not held. The solution to this obstacle was obvious: find another event to attend. The marketing subteam was able to find two different events to attend to replace the lost one, Irish Earth Day and the Loyola Earth Day Celebration. Another obstacle faced was in updating the website. The website was registered with a student who had graduated, and in order to renew the website it was necessary to have the login information held by that student. The team was eventually able to contact the person and get the login for the page, but by this point the domain name had expired and it would cost an additional $80 more to renew it. The best way to overcome this problem in future semesters would be to give the website login to the instructor, so that it will always be with someone involved in the project.

Recommendations

The underlying goal in future IPRO 332 courses should focus on collecting quantitative rather than qualitative results. This will not only help in understanding material learned by students but also show interested parties that your material is capable of producing results. There is currently one kit for the elementary schools, which is broken down into three lessons; and three kits for high schools, one lesson each. Currently, there is a small number of relative lesson plans for teachers given the topic at hand, so another goal should be to expanding on new topics of interest. Our spring 2009 group realized the importance of games and interactivity between teacher and student, which led us to rethink our approach on new lessons. This was a very prevalent at the marketing team events we attended, which had many children at the events. Another area to consider branching out to is high school after school programs and clubs at that focus on sustainability. This can be a major development for the IPRO in respect to begin creating long term holds as well as “employees” to

present material to other classrooms, greatly increasing the number of students you reach.

References

We referred to:

- Previous IPRO 332 team work.
- The surveys and researched we have done.
- Feedback of the public who showed great interest and supported our organization's mission at community outreach events
- We have done broad research using the web. To make sure we were getting true data-base we double-checked all information: Websites referenced include:
  http://www.britishcouncil.org
  http://kids.niehs.nih.gov/recycle.htm
  http://www.depweb.state.pa.us/justforkids/site/default.asp
  http://www.eia.doe.gov/kids/energyfacts/saving/
  http://www.tappi.org
  http://www.paper.org.uk/information/
  http://en.wikipedia.org
  http://www.treefarmsystem.org
  http://www.fao.org
  http://www.idahoforests.org/wood_you.htm
  http://www.appalachianwood.org
  http://www.seedbiology.de
  http://www.abundantforests.org
  http://www.eia.doe.gov/kids/classactivities/EnergyAnalysisEIA.pdf
  http://www.epa.gov
  http://www.doe.gov
  http://www.willyoujoinus.com/takeAction/energyGenerator/

Resources

Here is a summary of time resources. Each member is listed along with the time reported on iGroups, and main tasks:

Member	Time Reported (hours)	Major tasks
Leah	31.5	Creating elementary module, create public event materials
Eliza	56.9	Research existing work online, create elementary module, attended public events
Charleen	32.5	Presenter at mid-term and final, wrote abstract and ethics
Joesph	40.5	Organizing E-week, Creating Pociliy Module, Create brochure
Madison	60.5	Creating elementary module, Creating and organizing materials for public events, final presentation

Clayton	42.8	Created and updated ganht chart throughout semester, created elementry module, attened public events.
Nick	65.8	Orgranized project plan, setting up website, attending all public events
Rodolf	33	Creating media proposal, organized book drive
James	56	Created website layout, organized and attened public events.
Sarah	65	Presented, and created both mid-term and final. Created elementary module, notes at every class session, organized elementry school contact.
Hiren	8.5	Attended E-week, created IPRO poster
Timothy	30	Assisted in oraginization of public events and bookdrive, attended public events
Chris	40	Attended E-week, created poicly module, organized final report

The total hours spent was 563 hours.

Here is a summary of monetary resources:

Money Spent	Reason
$75	Pizza for team building event
$50	Irish Earth Day event registration
$120	Materials for public events and elementary presentations

The total dollars spent was $245

Acknowledgements

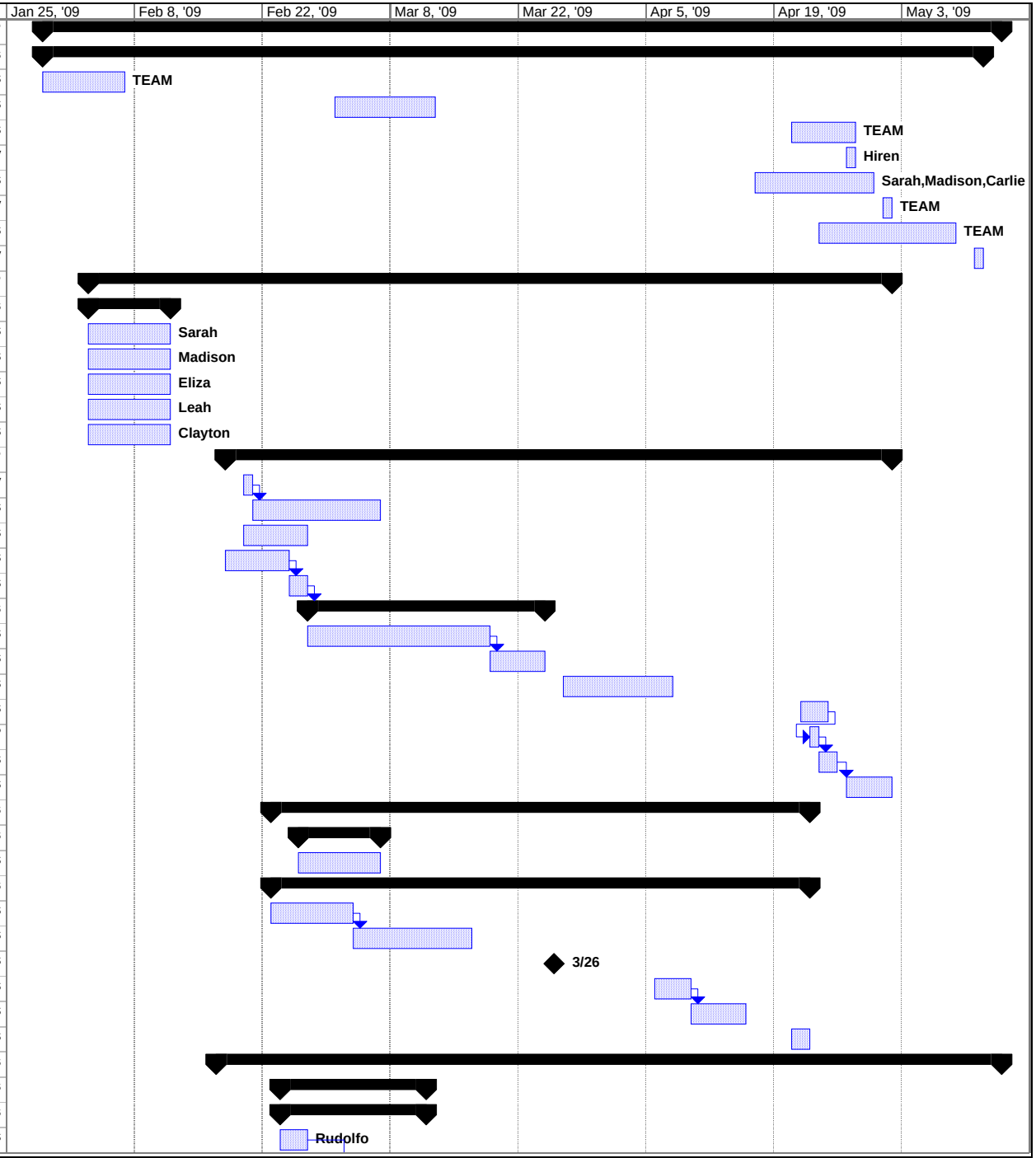
IPRO 332 would like to thank the following organizations

- Pershing West Magnet School
- DeLaSalle Boys and Girls School
- IPRO 320, Professional Networking for Teachers
- IIT Community Affairs
- Better World Books

Additionally IPRO 332 would like to offer a special thanks to

- Lakita Anderson, who helped us arrange our book drive
- Sarah Vera, in whose classroom we presented the Elementary Module
- Eve Ewing, who helped us review the Policy Module
- Cheryl Watkins, Principal of Pershing West Magnet School
- Linda Frank and Bob Chrupka, in whose classrooms we presented the Policy Module
- James Braband, our advisor for this semester

ID	Task Name	Duration
1	**IPRO 332-Our Energy Future**	**78 days?**
2	**IPRO Deliverables**	**76 days**
3	Project Plan	7 days
4	Mid-term Reviews	9 days
5	Exhibit & Abstract	6 days
6	Final Poster	1 day
7	Final Presentation	11 days
8	IPRO Day	1 day
9	Final Report	12 days
10	IPRO Deliverable CDs	1 day
11	**ELEMENTARY EDUCATION**	**67 days?**
12	**Research**	**7 days**
13	Existing Curriculum	7 days
14	Teaching Method	7 days
15	Field Trips	7 days
16	Previous Semester Module	7 days
17	Various Product Lives	7 days
18	**Life Cycles Module**	**56 days?**
19	Deliver Teacher Surveys to Schools	1 day
20	Collect Teacher Surveys	11 days
21	Coordinate with Teachers	6 days
22	Organize Research	6 days
23	Gather Materials	2 days
24	**Develop Lessons**	**18 days**
25	Write Lessons	14 days
26	Unify and Combine Lessons	4 days
27	Prepare Event and Presenation Materials	8 days
28	Teach Classes	3 days
29	Conduct Surveys	1 day?
30	Analyze Teaching Session	2 days
31	Revise Method & Materials	5 days
32	**HIGH SCHOOL EDUCATION - POLICY**	**44 days**
33	**Refine Cradle-to-Cradle Module**	**7 days**
34	Modify Old Module	7 days
35	**Create New Policy Module**	**44 days**
36	Research Policy	7 days
37	Create Teaching Materials	9 days
38	Present Module to Group	14 days
39	Get Feedback	4 days
40	Refine Materials	4 days
41	Teach Module in School	2 days
42	**MARKETING**	**65 days**
43	**Press**	**12 days**
44	**Contact media to advertise fair booths**	**12 days**
45	Develop Media Letter	3 days



ID	Task Name	Duration
46	Send Letters	1 day
47	Develop a calling protocol	4 days
48	Call Media	5 days
49	**Media**	**53 days**
50	**Improve Materials**	**53 days**
51	**Improve Flyers and Brochures**	**50 days**
52	Gather Content for flyers	3 days
53	Create New Flyer	6 days
54	Print Flyers & Brochures	3 days
55	Flyer and Brochure Deadline	1 day
56	**Improve Posters**	**26 days**
57	Gather Content for Posters	3 days
58	Create New Posers	6 days
59	Print Posters	3 days
60	Finished Poster Deadline	1 day
61	**Redesign HowManyEarths.com**	**26 days**
62	Website concept presentation	1 day
63	**Produce New Website**	**25 days**
64	Develop Concept	8 days
65	Create any New Content	6 days
66	Code Website	11 days
67	**Book Drive**	**19 days**
68	Set Up Boxes and Posters	4 days
69	Publicize Drive	2 days
70	Collect Boxes and Turn in Books	3 days
71	**Public Events**	**52 days**
72	**Present at E-Week**	**5 days**
73	Arrange Event	4 days
74	Attend Event 2/21	1 day
75	**Irish Earth Day**	**10 days**
76	Arrange Event	2.5 days
77	Print Materials	3 days
78	Arrange Transportation	1 day
79	Attend Event	1 day
80	**Earth Day at Loyola**	**11 days**
81	Arrange Event	2.5 days
82	Print Materials	3 days
83	Arrange Transportation	1 day
84	Attend Event	1 day
85	**IPRO Day**	**19 days**
86	**Presentation Preparation**	**19 days**
87	Presentation Slides	10 days
88	Practice Presentation	7 days
89	IPRO Day	1 day