

Milford Christian Academy
Project-Based Learning
Manual, 2nd Quarter 2009
(Draft)

Project-Based Learning PBL

Revision 2009-10

The following is a short update in the area of PBL, one of the key components of MCA curriculum. One must have a basic understanding of PBL and some history of working with PBL curriculum in grades 7-12 to grasp the recommendations, focus and emphasis that characterizes PBL for MCA for the 2009-10 school year.

PBL is a vehicle or method that MCA has chosen to complete its goals of making disciples of Christ, independent learners, good stewards of God's gifts, and thus producing fruit that will both give rewards and glory to God.

1. Focus and emphasis:

- Grades 7-8 will focus on EQ (essential question), research, mentor, binder and product. MLA will be a teacher-guided continuation.
- Grades 9-12 will focus on analysis, synthesis, evaluation, time and task management, reflection and presentation. These are the higher cognitive skills that will prepare students for lifetime learning.

2. Writing component (WC):

- 7/8 WC will be taught during LA class time as part of curriculum
- 9/10 WC will be over seen and guided during LA class time
- 11/12 WC will be independent with teacher and mentor assistance.

3. Mentors.

Mentors are essentials to the successful completion of a PBL project. Classroom teachers spend much time teaching the skills of PBL, but this does not replace the mentor component. (Read mentor component in handbook)

- 7/8 Family mentor for ease of communication and work schedule
- 9/10 At discretion of parents, either family mentor or outside expertise mentor
- 11/12 Highly recommend outside expertise mentor in preparation for Senior Project

4. Scope of PBL projects.

- 1st quarter 5 weeks topic History
- 2nd quarter 5 weeks topic Science
- 3rd quarter 8 weeks topic interdisciplinary
- Note: Students will have increased freedom to choose topics as they demonstrate the ability to successfully complete the full range of skills at their developmental level.

Source and reason for PBL updates and revisions are based on Upper School evaluation of 2007-08 PBL curriculum and input from students based on their final exam, which consisted mostly of their evaluation of various components of PBL.

Parents are advised to check the PBL webpage because it is the communication link for students, mentors, teachers and parents. All outlines, requirements and schedules are posted on this page. Handbook, in its completed stage, is in process to be completed this fall

Project Based Learning Requirements 2nd Quarter 2009

The MCA 1st Quarter Project will center on an essential question or problem which will be addressed in the following:

Topic: Biology/Life Science in coordination with classroom content

Time: 5 week PBL, November 9 –December 17, 2009.

Mentor: required

Project may be done in team by permission of instructor and parent.

No teams this quarter.

10 hours (per student) of documented research time

Personal interviews

Printed research (books, articles, etc.)

Seminars / classes

Internships / work

Learning Narrative (Journal)

2-3 entries per week chronicling project progress, frustrations, complications, and growth

Reflective Essay 2 pages J.H., 3 pages H.S.

Based on Learning Narrative (journal)

Annotated Bibliography

Minimum of 3-5 sources J.H., 1 book, 1 article, 3 internet or other with author

Minimum of 5-7 sources H.S. 1 book, 2 articles, 4 internet or other with author

MLA format

Minimum three sentences for each source. Content, reliability, and usage.

Oral Presentation: December 16, 17

Power Point demonstration of knowledge of subject

7-10 minutes H.S. Teams add 2minutes

5-7 minutes J.H., *power point not required*

Essential question answered

Paper(s)

Demonstration, model, or product, tri-fold board

Project Binder containing all documentation, letters, evaluations, etc.

Question and Answer Period not included in time

Week 1
Letter of Intent with Essential Question
Mentor Selection
Research MLA

**Letter of Intent
2nd Quarter 2009**

Name(s): _____

Date: _____

Topic: _____

Each project must cover aspects of the science and technology in conjunction with their class curriculum. Students have been encouraged not to embark on projects where cutting edge technology is beyond the scope of their project regardless of how interesting. Students may conduct this project in teams of two, understanding next quarter they will perform solo.

Mentor: _____

Why are you interested in this topic?

What previous knowledge do you bring to this project?

What resources have you identified to help you with this project?

1. _____
2. _____
3. _____
4. _____

Driving or Essential Question:

Signed:

**Student:
Project Supervisor:**

Parent:

Mentor:

PBL MENTOR RESPONSIBILITIES

Student Name _____

Mentor / Coach **Signature** _____

Project Title _____

Essential Question:

PBL mentor responsibilities can best be described as that of a coach. Mentors advise primarily in the area of management, organization, and planning. It is an honor to be asked by students to help oversee their project. This means you have a relational connection. Your greatest help will be in the area of giving historical content to the topic they have chosen. Students are generally very interested in their topic but fail to make or see the role their topic played into the larger cultural, scientific and historical picture.

The list below is the project supervisor's responsibility but you need to initial the steps, help them identify lacking areas and lead them to answers. Any questions can be emailed directly to the project supervisor (longvalm@gmail.com). Students will provide you with the project manual, which includes a schedule of deadlines. It is recommended that meeting times correspond to those dates. Please take time to read the material given to each team. Meeting once every two weeks and corresponding by email the in the alternating weeks is a good framework. This is a five-week project from beginning to end. We are working through this first project step by step.

Team Project Learning Steps

1. Identify Problems or Driving Question.
2. Identify the resources: Begin annotated bibliography
3. Manage and Organize: Make a timeline, use calendar in packet
4. Make a Plan: Strategic and creative Problem Solving. The "what" and "how" of the project.
5. Applied Research; Activate plan, Produce a product. Do it!!!
6. Presentation: Tri-fold board, or ppt for high school, oral presentation

Binder checks: See Binder requirements and schedule. (Notify Supervisor if you are concerned about student's progress.)

1. _____ 2. _____ Presentation: Dec. 16, 17 _____

Help prepare for final presentation and submit Mentor Evaluation Letter

MENTOR EVALUATION LETTER

Prior to final PBL presentations, mentors must compose a letter addressed to the Project Supervisor using the following guidelines:

1. Quality and quantity of your relationship
2. Student's responsiveness to change, modification and input
3. Student's ability to think, research, and organize
4. Student's ability to plan and prioritize
5. Student's ability to execute a time schedule that does not interfere with the rest of life. In other words, how does he/she handle stress?
6. Give evidence of student's growth
7. Be sure to include basis of information, name, project title, essential question, etc.

Research

Research is a very large part of PBL. In order to obtain reliable and accurate research, you must use reliable sources. General sources such as Wikipedia and About.com are suitable for beginning research. These sources are usually followed by bibliographies, which allow you to find more specific sources, such as books and journals.

When looking at your source, even before you take information from it, please make sure it is reliable. The source *must* have an author if you want to use it for PBL. There will be no sources accepted without authorship. Also, the source you are using should have cited their own sources and include a bibliography. You do not want to use a source that does not follow the accepted rules of research and ethics. No author should claim information as his own if it is not his.

Research Requirements:

- 1. Must have author – first and last name, not just initials**
- 2. Must cite sources and include bibliography**
- 3. Use MLA citation – both for in-text and bibliography.**
- 4. Strongly suggest doing bibliography as you go– don't wait until the end.**

http://www.lib.unc.edu/instruct/citations/mla/in_text.html

<http://www.lib.unc.edu/instruct/citations/mla/print.html>

<http://www.lib.unc.edu/instruct/citations/mla/online.html>

Activity: Make folder on jump drive for research. Insert these Web addresses.

Week 2
Active Research
Calendar/Timeline
Student / Mentor Time sheet
1st Binder check

PBL Calendar/TIME LINE Fall 2008	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Week 1: Select topic, mentors, and create Letter of Intent with “Essential Question. Start research and journal	Nov. 9	Mentor Selection	Letter of Intent	Essential Question	Start Research
Week 2: Start active Research, annotated bibliography, and complete calendar / timeline 1 st Binder check	Nov. 16	Calendar / Timeline	Active Research		1 st Binder check
Week 3: Plan your product(s) Start gathering ,materials Begin working on product	Nov. 30	Product Planning		Work on product during school	
Week 4: Finish product. Start work on presentation 2 nd binder check Start Reflective Paper	Dec. 7	Product Completion	Start Reflective Paper	Presentation Prep	
Week 5: Practice Presentation. Complete Reflective Paper Give Presentation. Grading	Dec. 14	Practice Presentation	Reflective Paper Presentation	Presentations Parents Welcome	

Binder Record Fall 2009

Documentation	1 st binder check	2 nd binder check	3 rd binder check NA for Fall 2009
Letter of Intent			
Student / Mentor Time Sheet			
Evidence of Research			
Annotated Bibliography			
From notes from readings			
Highlighted notes			
Interviews, surveys, other research material			
Learning Narrative and Evaluation			
Journal			
Reflective Paper			
Timeline / Calendar			
Rubric Accessing and: Processing			
Rubric Time and Task Management			
Product Assessment Form			
Presentation Grading Form			
Binder Record			
Final Grading Form			

Week 3
Planning the Product
Product Presentation Worksheet

Planning the Product

PBL

Product can be described as a model, demonstration, performance, brochure, pamphlet, tri-fold board, website/web page, service, presentation, movie, documentary, or any combination of the above.

1. Do you have a plan or design for your product? If not, this is your first step. Separate sheet of paper

2. What materials, tools and equipment are necessary? Make a list.

Materials

Tools

Equipment

3. How and where will you obtain the materials, equipment and tools?

Materials:

Tools:

Equipment:

4. Will you need adult supervision? Will your mentor assist you?
5. What advance communication will people need to support you?
6. Put all dates and events on your timeline / calendar / schedule

Week #4
Presentation Prep
Worksheet for Organization of Presentation
Guidelines for Reflective Paper

**Rubric grading for Organization component “S T EP S “
Speech / PBL**

E	Above standards, excellent
G	Quality work
S	Completed all components satisfactorily
A	Meets minimal requirements
U	Components lacking, many weaknesses
N	Nothing to judge

- _____ 1. State: clear introduction, purpose established, and audience hook

- _____ 2. Translate: gives further understanding of the topic through definitions, key terms, and explaining your point of view

- _____ 3. Exemplify: gives examples, stories, experiences to support point of view

- _____ 4. Prove: provides quotes, testimonies, and evidence from experts that support your position

- _____ 5. State Again: conclusion, bring focus back to beginning statement and summarize

PBL REFLECTIVE PAPER GUIDELINES

We have been asking you to reflect on your research, your process and your experiences since this all began. The real value in your project lies in your ability to do this honestly. We are asking you to consider the process of this project over the last five weeks. Just as you have applied your research to make your project your own, it is important to keep in mind that the reflection paper is a representation of your growth as an individual. We offer you the following guideposts to help you reflect on your project:

- ◆ What have you discovered about your ability to plan?
- ◆ How have you learned to use resources?
- ◆ How have you learned to solve problems?
- ◆ How do you intend to use the knowledge and skills you have gained?
- ◆ What have you discovered about your own thinking?
- ◆ What new ways have you discovered to view yourself?
- ◆ What have you learned about yourself in this process?
- ◆ How has your active research been applied?
- ◆ What have you learned of God and His ways?

Week # 5
Presentation and Evaluation
Forms:

1. Rubric Accessing and Processing Information
2. Rubric Time and Task Management
3. Rubric Product Grading
4. PBL Presentation Grading
5. PBL Final Grading

Rubric for accessing and processing information

limited developing proficient advanced exemplary

Displays a strategy for accessing					
Accesses a variety of sources					
Organizes and labels selected information sources					
Focuses on key issues					
Identifies key ideas					
Labels and clarifies notes					
Summarizes information					

Rubric for task and time management

limited developing proficient advancing exemplary

Stays on schedule					
Sets appropriate and realistic goals					
Develops strategic plan for completing work					
Keeps tracks of materials					
Work is well distributed and completed by all team members					
Communicates well with mentors, teachers and parents.					

PBL Product Grading Rubric

This form is used for evaluating the various products used in the final presentation. Evaluators must be aware of the student's grade level and judge according to the standards for that level of project. A 7th grader receiving an "E" is obviously not the same standard as an 11th grader.

1. _____ Product(s) demonstrates knowledge of the subject area.

Comment: _____

2. _____ Products display evidence of research.

Comment: _____

3. _____ Products are appropriately integrated into the project.

Comment: _____

4. _____ Products represent a synthesis of knowledge and understanding of topic.

Comment: _____

5. _____ Products demonstrate well designed plan and execution.

Comment: _____

6. _____ Products reflect a desire for excellence.

Comment: _____

7. _____ Products achieve a high level of excellence

Comment: _____

Grading Rubric

"E" Excellent, above the standard

"S" Satisfactory, all components complete

"U" Unsatisfactory, missing components

"G" Good, quality work

"A" Average, minimum work

"N" Nothing to judge

PBL PRESENTATION EVALUATION

Presenter's Name _____ Project Title _____

Senior Seminar Teacher _____ Mentor _____

Date _____ Time start _____ Time Finish _____ Questions _____

Essential Question

Scoring Key:

E = 5 Exemplary/commendable - clear evidence of pushing comfortable limits

G = 4 Satisfactory, meets expectations of project standards.

S = 3 Some weak areas - could be stronger

A = 2 Needs more work

N = 1 Little evidence to judge

Delivery and Presentation Tools:

1. ___ Speaker utilized effective mechanics of presentation through vocal variety, emphasis of key points, clarity of speech, humor, eye contact, pace, and rhythm.

2. ___ Speaker demonstrated enthusiasm and confidence about material/subject.

3. ___ Supporting materials appropriately enhance the project/presentation and are effectively referenced and utilized.

Applied Research Product Presentation

5. ___ Product(s) presented demonstrated clear knowledge of area or subject.

6. ___ Products(s) demonstrated synthesis of research

7. ___ Product(s) meet high standards of excellence (craftsmanship, design, and creativity).

Organization

8. ___ Organization of material presented follows a logical progression

9. ___ Time is effectively utilized.

10 ___ Audience questions answered in an informed confident manner.

PBL FINAL JUDGING CRITERIA

Student Name _____

Date

- | | |
|---|-------|
| 1. Was the Essential Question answered?
To be judged after final presentation-based on other four section | 20% |
| 2. Twenty hours of research/binder
Letter of Intent
Annotated Bibliography
Binder check forms
Time sheet
Rubric Assessment Forms
Mentor and student time sheet
Journal | 30% |
| 3. Research Paper _____ pages (if required) | _____ |
| 4. Reflective Paper 3-4 pages | 15% |
| 5. Product Review | 10% |
| 6. Final Presentation | 20% |
| 7. Mentor(s) Evaluation | 5% |

Final Grade _____