TECHNOLOGY FOR TEACHERS
EDFS326 –SECTION 06
Pre-requisite: EDFS 201

FALL 2017
INSTRUCTOR: mutindi ndunda, Ph.D.
Educational Foundations and Specializations
PHONE: (843) 953-8046
EMAIL: ndundam@CofC.edu
CREDIT: 3 semester hours
OFFICE: RM: 323, 86 Wentworth Street
OFFICE HOURS: Monday/Wednesday: 12:00 - 3:30PM
or by Appointment
MEETING TIMES: Mondays: 4:00 PM

DESCRIPTION:
This is an introductory course for pre-service teachers using technology in the classroom. Students will become familiar with applications such as word processing, database, spreadsheet, hypermedia, desktop publishing, telecommunications, and will learn to evaluate hardware and software.

COURSE TEXT(S) AND MATERIALS

<table>
<thead>
<tr>
<th></th>
<th>Course Text(s) and Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Larmer, J., Ross, D. &amp; Mergendoller, J. (2011) Project Based Learning (PBL) Starter Kit: To-the-Point Advice, Tools and Tips for Your First Project in Middle or High School Kindle Edition Available for kindle for $19.95. At Amazon it’s between $35-40 (new or used)</td>
</tr>
<tr>
<td>2</td>
<td>Roblyer, M.D. (2016) 7TH edition. Integrating Educational Technology Into Teaching. New York, NY. Pearson. Available online (used) for $54.84 can also get ecopy from coursemart@<a href="https://www.vitalsource.com/">https://www.vitalsource.com/</a></td>
</tr>
<tr>
<td>3</td>
<td>Buck Institute of Education Resources. Available online at bie.org</td>
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<tr>
<td>4</td>
<td>25 practicum hours (for EDFS 326 SEC)</td>
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WELCOME/KARIBU

Welcome to EDFS 326 Secondary: Technology for Teachers section. In this introductory class to technology, you will learn how to integrate technology in your teaching content area by creating a Project Based Learning (PBL) unit using the Buck Institute of Education design model. Integrated technology in the unit must be integral to the success of the unit. Research has that PBL instructional approach is an effective and enjoyable way to learn which enables the development of deeper learning competencies required for success in college, career, and civic life (bie.org). We will learn how to incorporate technology and emerging technologies in the unit to enhance students’ learning. Technology is not the project but it is one of the means to the end. Be prepared to think. Thinking is enjoyable but also hard work!
You will be expected to complete 25 practicum hours in a high school classroom where you will work with your collaborating teacher to observe, learn and reflect. Please keep an observation log, which will need to be signed by your cooperating teacher as proof of your attendance/participation. There are four observation assignments that you will need to complete. The observation assignments DO NOT need to be signed by your cooperating teacher. These are on OAKS. Complete and submit on OAKS on due date.

Upon successful completion of this course the student should

- Demonstrate a basic knowledge of terminology related to educational technology (SOE III, ISTE I),
- Demonstrate various applications of educational technology in K-education (SOE III; ISTE II, III, IV)
- Discuss major trends and issues (e.g., the Digital Divide, equity in access, cyber-bullying & appropriate usage, copyright issues) pertinent to use of technology in K-12 education (SOE II-VII; ISTE VI)
- Use an integrated software package (e.g., Microsoft Word) in professional writing applications (e.g., professional resume, lesson plan) (SOE V; ISTE V)
- Demonstrate knowledge of application software in the context of a classroom setting for information management and teaching (database, spreadsheet) (SOE II-III; ISTE IV-V, NMSA 1, 3, 5)
- Demonstrate awareness of resources for adaptive/assistive devices for students with special needs (SOE III; ISTE II, III)
- Use an HTML editor to produce a Web page for a K-12 classroom environment (SOE II, III, V; ISTE II, III)
- Design and produce educationally sound and developmentally appropriate instructional multimedia using various applications including smart notebook (SOE I-VI; ISTE II, III; NMSA 1, 3, 5)
- Use the Internet to locate appropriate and relevant resources for K-12 education (SOE II-V; ISTE II, III; NMSA 1, 3, 5)
- Plan for the integration of technology into teaching in K-12 classrooms, employing the National Educational Technology Standards (NETS-T) developed by ISETE (SOE II-V, VII; ISTE II, III, IV; NMSA 1, 3, 5).

* (SOE = School of Education Teaching and Learning Standards)
* (ISTE = International Society for Technology in Education National Educational Technology Standards for Teachers)
*(NMSA = National Middle School Association)

POLICIES/ATTENDANCE: Policies and procedures for EDFS 326 SEC correspond to the Policies and Procedures statement developed and approved by the faculty of the School of Education Health and Human Performance. A copy of this statement is included as a part of this syllabus. It is the departmental policy that students may miss no more than 15% (two sessions of classes which meet once a week; missing four sessions of classes which meet twice per week; and, missing six sessions of classes which meet three times per week) of class time. Students with more than 5 hours and 15 minutes of absences may be dropped from this course regardless of the time of the semester.

MISSED CLASSES: Students are responsible for all content and assignments for each class. Students will only
receive credit for documented excused (note from doctor or hospital on letterhead) absences. Absence memos from the Absence Memo Office do not take precedence over an individual faculty member's attendance policy.

**PRACTICUM:** Completion of 25 practicum hours is mandatory. You must get the signature of your cooperating teacher each time you participate in your practicum observation. The 25 hour observation log is due on or before the end of the semester.

Hardcopy Assignments will be collected in the beginning of the class otherwise, assignments will be submitted on OAKS on due dates. Also, some assignments will also be shared with the instructor through google docs. Late homework will not be accepted unless there is a legitimate reason for the late submission.

**HONOR CODE:** This course is conducted under the Honor Code of the College of Charleston. The Honor Code specifically forbids lying, cheating, attempted cheating, stealing, attempted stealing and plagiarism. Students at the College are bound by honor and by their acceptance of admission to the College to abide by the Code and to report violations. A copy of the College of Charleston Student Handbook can be downloaded from the following website. Click here

**STUDENTS WITH DISABILITY**

This College abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services/SNAP, (843) 953-1431) or me so that such accommodation may be arranged.

**RESPECTFUL CONDUCT**

Teacher Candidates are expected to be respectful and considerate of one another when communicating with colleagues and instructor during face to face sessions or online. Cell phones should be turned off while in class unless they are facilitating learning and are not causing distractions. Disrespectful conduct will result in a loss of participation points and/or completion of a disposition form.

### EVALUATION/ASSESSMENTS

<table>
<thead>
<tr>
<th>ASSIGNMENTS</th>
<th>% OF FINAL GRADE</th>
</tr>
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<tbody>
<tr>
<td>1. PBL Unit Portfolio and Presentation: Portfolio must include the following: A Unit Plan with student learning goals and objectives aligned to South Carolina state standards. available at <a href="http://ed.sc.gov/instruction/standards-learning/">http://ed.sc.gov/instruction/standards-learning/</a></td>
<td>52</td>
</tr>
<tr>
<td>(a) The unit has addresses all the 8 elements of PBL model (see drafts below)</td>
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<td>- Unit integrates technology (old and new)—</td>
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<tr>
<td>a. Technology for teaching and learning</td>
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<td>b. Technology that facilitates achievement of 21st century/success skills— critical thinking/problem solving/collaboration &amp; self-management</td>
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</table>
c. Technology for productivity/management  
d. Other

(ii) Unit differentiates instruction for (ELLs, Special Needs students, Gifted and Talented)

iii) Planned unit has:
1. Driving question that is engaging/open-ended/authentic  
2. Major Public products that are authentic  
3. Formative and summative assessments & Rubrics to assess students’ learning  
4. Entry event(s) that are engaging  
5. Procedures for implementing the unit are clearly delineated  
6. Research based strategies to prepare students for Inquiry & Build knowledge & skills to answer DQ are available  
7. Appropriate technology integrated  
8. Differentiation strategies for content, process, environment and product  
9. Student learning guides and outcomes  
10. Reflection strategies are presented  
11. Other

2. Technology integration assessment Test  
3. Issues in Technology (APA style) paper  
4. Chapter concept map(s)  
5. Resume  
6. Participation in Learning communities forums, blogs wikis

ASSIGNMENT DUE DATES

<table>
<thead>
<tr>
<th>ASSIGNMENT DUE DATES</th>
<th>DUE DATE</th>
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<tbody>
<tr>
<td>1. Chapter concept Map</td>
<td>09/11</td>
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<tr>
<td>2. PBL UNIT</td>
<td></td>
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<tr>
<td>(a) PBL-What/Why</td>
<td>09/18</td>
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</tbody>
</table>
| (b) (i) Developing An Idea Etc (Draft#1) shared through google docs  
(ii) submitted in OAKS dropbox | 10/02 (google docs)  
10/16 (dropbox) |
| (c) Planning (Draft #2)-  
(i) complete project assessment map template,  
(ii) Provide major project product assessment description and rubric  
(iii) Develop one formative assessment and a rubric for it | 10/09 (google docs)  
10/23 (OAKS) |
| (d) Web-Based Technologies that will be integrated in the PBL unit | 10/23 (IN CLASS)  
11/06 (on OAKS) |
| (e) Differentiating Instruction In PBL (Draft #3) completed | 10/30 (google docs) |

1 You will work on one PBL unit template throughout the semester. However, specific sections are due on stated dates. In addition, a revised copy of the specific section is due on OAKS for grading purposes.
DELIVERABLES:
Create/ develop strategies and resources for:
- Teaching/coaching and sustaining inquiry
- Complete prior knowledge & need to know template
- Find resources for teaching and/or enhancing students how to think critically
- Managing group work
- Self-assessment rubrics/checklists (example)
- Group norms/contracts
- Project management logs

(a) Reflection Strategies (Draft #5) 12/4
(b) Draft of PBL UNIT (whole) 12/06

3. Issues in Technology (APA style) paper 10/30
4. Technology integration assessment Test 11/06
5. Resume 11/27
6. Participation: class preparation. You will be required to come to each class with evidence of prior preparation. Evidence includes: drafts of assignments, summaries etc. A rubric will be used.

<table>
<thead>
<tr>
<th>Evaluation Scale:</th>
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<tbody>
<tr>
<td>A: 93 – 100</td>
<td>C 79 – 81</td>
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<td>A- 91 – 92</td>
<td>C- 77 – 78</td>
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<td>B+: 89 – 90</td>
<td>D+ 75 – 76</td>
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<td>B: 86 – 88</td>
<td>D 72 – 74</td>
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<tr>
<td>B- 84 – 85</td>
<td>D- 70 – 71</td>
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<tr>
<td>C+ 82 – 83</td>
<td>F 0 – 69</td>
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Class Schedule²

<table>
<thead>
<tr>
<th>Module</th>
<th>Due</th>
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Readings and Assignments Due³

Please note that readings and assignments are due on or before class session on the indicated date.

² Schedule is subject to change

³ Please note that readings and assignments are due on or before class on the indicated date.
| **INTRODUCTION**  | 08/28 | Review syllabus/assignments/expectations/Goal of the course/rubrics  
EXPLORE THE LINKS BELOW  
- Does Technology Enhance Learning?  
- A different way to think about technology  
- Can technology change education (video)  
- South Carolina standards  
- What is the future of technology? Look up an article on the future of technology  
- WATCH/READ/DISCUSS & REFLECT IN WRITING  
- Concept maps-different types-using simple technologies (pen & paper or using software)  

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**Home work**

Read Roblyer M.D. (chapters 1, 2 & 7). Educational Technology in Context & Theory into practice. **TASK:** a) Identify & write 4 key lessons and/or ideas in each topic to share in class (Read before 09/04)-b) Create a concept map of the ideas

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| **FOUNDATIONS:**  UNDERSTANDING TECHNOLOGY & LEARNING | 09/04 |  
- DISCUSS: Educational Technology in Context: The Big Picture and how to put theory into practice & CH. 7. Technology tools and strategies for online learning. (CHAP#1, 2 & 7)  
- EXPLORE: What, why and how to teach with technology Introductions.  
[http://www.youtube.com/watch?v=A-ZVCjWf8](http://www.youtube.com/watch?v=A-ZVCjWf8)  
- IDENTIFY: Key ideas/concepts/issues  
  - Educational issues-represent them in a concept map or any other format that makes sense  
- SHARE: key lessons/ideas  
- REFLECT: So what?  
- **CONCEPT MAP DUE 09/11**

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| **PBL: WHAT & WHY? INTRODUCTION**  | 09/11 09/18 |  
- READ Sect#1 of PBL Starter Kit (6-12) & view/read assigned articles/videos and resources FOR THIS PERIOD BELOW  
Read: "Why we changed our 8-element model (old vs. new) available on BIE/oaks. New model for Gold "-  
- EXPLORE: The gold standard blog on bie.org  
- EXPLORE What and Why? View videos and reflect on PBL case studies  
- EXPLORE: the advantages and disadvantages of PBL (research)  
- Answer: What are the theories that inform PBL?  

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- Discussion Forum: POST Lessons learned on what & why PBL

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4 Assigned Homework is due before the following class session
<table>
<thead>
<tr>
<th>2</th>
<th>GETTING STARTED, SAMPLE PROJECTS 1st draft</th>
<th>09/25</th>
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<tbody>
<tr>
<td>• RESPOND to peers’ Lessons learned on what &amp; why PBL (on DISCUSSION BOARD ON OAKS)</td>
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<tr>
<td>• WHAT/WHY PBL DUE SEP/18</td>
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<tr>
<td>• START WORK ON RESUME. See description and templates on OAKS</td>
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<td>• READ Sect # 2 &amp; 3, PBL Starter Kit (6-12) and selected articles given in the additional resource list below.</td>
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<tr>
<td>• EXPLORE Getting Started &amp; Sample PBL links (view/read and comment on two.</td>
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<tr>
<td>• West Virginia sample project shttp://bit.ly/2vwpwVZ</td>
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<td>• Top 15 favorite PBL projects <a href="http://bit.ly/2vluN1Q">http://bit.ly/2vluN1Q</a></td>
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<td>• EXAMINE South Carolina Standards for your subject areas</td>
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<td>• TASK: DRAFT #1</td>
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<td>• Deliverables</td>
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<td>• Develop an idea for the PBL unit</td>
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<td>• Identify/specify content standards/goals</td>
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<td>• Identify 21st century/success skills</td>
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<td>• Write a riveting challenging/driving question</td>
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<td>• Identify/Decide major products-</td>
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<tr>
<td>• Planning forms are available @bie.org. Note online forms are revised or (pp. 127-131)</td>
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<td>• Start working on Technology issues paper</td>
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<td>• Contact a Charrette using the Charrette protocol for DRAFT #1 (TASK ABOVE)</td>
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<td>• Critical Friends Forum and or Gallery walk: PROVIDE FEEDBACK on DRAFT#1</td>
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<tr>
<td>• Project Plan: REFLECT &amp; REVISE DRAFT#1. Use the project design rubric</td>
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<tr>
<td>• 10/02: Share draft #1 with instructor through google docs for feedback. SUBMIT revised draft on dropbox by 10/16</td>
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<tr>
<th>3</th>
<th>PLANNING</th>
<th>10/02</th>
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<tbody>
<tr>
<td>• READ Sect # 4, PBL Starter Kit (6-12)</td>
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<tr>
<td>• EXPLORE/DEVELOP DRAFT #2 Planning:</td>
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<tr>
<td>• Develop summative &amp; formative assessments</td>
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<td>• complete the project assessment map templates (on OAKs) and on PBL unit template.</td>
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<td>• find/develop Entry events that will serve as a “hook” for the students to motivate the students</td>
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<td>• Create—rubrics, calendar, handouts (see pp. 66)</td>
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<td>• Develop daily teaching/ learning tasks</td>
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<tr>
<td><strong>Incorporate literacy/technology-Justify</strong></td>
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<tr>
<td><strong>Conduct a Charrette PROJECT DESIGN : DRAFT #2</strong></td>
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<tr>
<td>Issues Forum: RESPOND to <em>peers’ questions on DRAFT #2</em></td>
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<tr>
<td>Issues Forum: CONDUCT A Gallery Walk (this could be done online through voicethread)</td>
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<tr>
<td>Respond to Critical Friends questions /comments <em>Planning questions</em></td>
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<tr>
<td><strong>REFLECT/REVISE Project Design DRAFT #2</strong></td>
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<tr>
<td>SHARE WITH ME THROUGH GOOGLE DOCS FOR FEEDBACK ON 10/09</td>
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<td>SUBMIT to dropbox for/GRADING by 10/23</td>
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**TECHNOLOGY ISSUES PAPER**

- Discussion on technology issues. Possible issues are a) We are spending a lot of money on technology--Is it worth it? What do the data say? b) are teachers integrating technology? etc
- Paper is due on 10/30

**WEB-BASED TECHNOLOGIES 10/09**

- Web 2.0 technologies *What are they?* Web-based lesson plans
- EXPLORE: WIKIS & BLOGS
- REFLECT-USE OF WIKIS & BLOGS with PBL
  - *What are wikis?*
  - Wikis in plain English
  - [http://www.teachersfirst.com/content/wiki/](http://www.teachersfirst.com/content/wiki/)
  - Wiki subject ideas [http://www.teachersfirst.com/content/wiki/wikiideas1.cfm](http://www.teachersfirst.com/content/wiki/wikiideas1.cfm)
  - Rationale for blogs
  - [http://learnerblogs.org](http://learnerblogs.org)
  - [https://www.blogger.com/start](https://www.blogger.com/start)
- IDENTIFY at least Four types of technologies that you will integrate in your unit/content area to:
  - Enhance learning of the concepts
  - Manage the project
  - Assess student’s learning
  - Communicate with students
  - Promote coding-scratch
  - *(DRAFT DUE IN CLASS ON 10/23  REVISED DOCUMENT ON 11/06 after presentation by ETV consultant)*
- Continue working on resume
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>10/16-17</td>
<td>FALL BREAK</td>
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</table>
| 10/23     | **DRAFTS # 3:** Differentiation in PBL—differentiate content, context, process and Product. For details [click here](http://bie.org/blog/resource_list/differentiation_in_pbl)  
Read articles on the sections on differentiation of instruction for all ages at [http://bie.org/blog/resource_list/differentiation_in_pbl](http://bie.org/blog/resource_list/differentiation_in_pbl)  
Revise project to include clear differentiation strategies for:  
  - Special needs students  
  - English Language Learners  
  - Gifted and Talented  
  - Other  

  - **EXPLORE PBL for differentiation links:**  
    - Conduct a charrette Forum: [PBL for Differentiation questions](http://bie.org/blog/resource_list/differentiation_in_pbl)  
    - Issues Forum: Respond to [peers’ questions](http://bie.org/blog/resource_list/differentiation_in_pbl)  
      - Project Plan: Revise differentiation section share through google docs by 10/30 submit in Dropbox by 11/13  

  - Integrating technology in the PBL unit  
    - Presentation by “5 Instructional Technology Specialist/Content Coordinator from ETV  
    - Ms. Jerrett will be presenting a wide variety of ways to integrate technology in the content area.  
      - SCETV StreamlineSC/Learn 360  
      - PBSLearningMedia.org, PBS Kids  
      - Webservers for Teachers  
      - She will share with us some excellent FREE webtools available to teachers. Will explore these tools with the presenter and assess how to integrate some into our PBL unit.  
      - Creating Multimedia Projects with Mobile Devices  
      - Flipping Tools (if time permits)  
      - Technology Issues paper DUE ON 10/30  

  - 11/06/: TECHNOLOGY INTEGRATION ASSESSMENT TEST  

  - 11/13/ 11/20)  
    - **READ Sect # V PBL Starter Kit (6-12) and selected articles**  

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5 Will have an instructional technology specialist from Streamline ETV presenting on March 13
DRAFT# 4
• EXPLORE how to:
  • A) Build a culture of inquiry and independence –
  • B) Create—strategies and resources for:
    • Teaching and sustaining inquiry
    • Coaching for inquiry
    • Identifying prior knowledge & need to know
    • Teaching students how to think critically
    • Managing group work
• C) Develop/ prepare
  • Collaboration skills rubrics
  • self-assessment rubrics/checklists
  • Group norms/contracts
  • Project management logs
• D) Project Report-individual & Group
E) Facilitate the presentation
  • Develop Presentation checklist
  • Plan what student will do during the on what happens during
    the presentation
  • Plan how audience will provide feedback/ prepare audience
    feedback forms
• Conduct a Charrette on Draft #4
• Issues Forum: Gallery Walk (this could be done online through
  voicethread)
• Respond to Critical Friends questions /comments
• Project Plan: REFLECT/REVISE Project Design-management
  Draft#4:share through google docs Due 11/13 submit on OAKS
11/27
• Resume due 11/27 ON OAKS

6
REFLECTING &
PERFECTING
PLAN FINAL
TOUCHES

11/27
READ Section# VI, PBL Starter Kit (6-12)
  EXPLORE and Develop Ways to Celebrate and methods/formsto
  reflect (both teacher and students)
  • Guide & Decide what to reflect on
  • Develop/modify self-reflection forms
Conduct a Charrette
Issues Forum: ANSWER questions raised by peers
Project Plan: REFLECT/REVISE PROJECT DESIGN:DRAFT #5 DUE 12/4

• REVIEW the whole project and reflect on the process of
  developing a project.
  • Use project Rubric
  • POST REFLECTIONS ON DISCUSSION BOARD
  • WRITE LESSONS LEARNED-ONE PAGE-
  • SUBMIT LESSON:LEARNED ON DROPBOX-DUE 12/6
**ARTICLES/RESOURCES READ**

**Week 09/11- 09/18**
- Read articles and view at least 3 videos (selected resources with a check mark)

- Video PBL at ACE Leadership High School: [http://goo.gl/Im35Ke](http://goo.gl/Im35Ke)
- Video: PBL explained [http://www.bie.org/object/video/project_based_learning_explained](http://www.bie.org/object/video/project_based_learning_explained)
- Other—your choice

- What is PBL and why PBL. [https://www.bie.org/about/what_pbl](https://www.bie.org/about/what_pbl) and [https://goo.gl/4xLzSN](https://goo.gl/4xLzSN)


**Additional Resources**
- Edutopia - [http://www.edutopia.org/pbl-research-annotated-bibliography#barron2](http://www.edutopia.org/pbl-research-annotated-bibliography#barron2) (choose
# Assigned Reading Materials

## SECTION 2: GETTING STARTED, SAMPLE PROJECTS

- **Sample PBL links (view/read and comment on two).**
  - West Virginia sample projects [https://goo.gl/yal82V](https://goo.gl/yal82V)
  - Top 15 favorite PBL projects [https://goo.gl/FGwvzf](https://goo.gl/FGwvzf)


### Resources: Technology Integration in PBL

- Video on Edutopia: Transformed by Technology at High Tech High [https://goo.gl/Gf2cSl](https://goo.gl/Gf2cSl)

- Google apps and PBL: A blog [http://www.bie.org/blog/google_apps_for_education_enhances_project_based_learning](http://www.bie.org/blog/google_apps_for_education_enhances_project_based_learning)


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### 10/02: Section 3: Planning Assessments & Rubrics

- Assessment guide. Read all the six short sections [https://goo.gl/hr0QS0](https://goo.gl/hr0QS0)

- Formative assessments: [https://www.edutopia.org/blog/5-fast-formative-assessment-tools-vicki-davis](https://www.edutopia.org/blog/5-fast-formative-assessment-tools-vicki-davis)

**ASSESSMENT RUBRIC FOR PROJECT BASED LEARNING UNIT**

## PROJECT DESIGN RUBRIC

<table>
<thead>
<tr>
<th>Essential Project Design Element</th>
<th>Excellent (52-49)</th>
<th>Good (48-42)</th>
<th>Fair (41-36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes Features of Effective PBL</td>
<td>The project has the following strengths:</td>
<td>Needs Further Development The project includes some features of effective PBL but has some weaknesses:</td>
<td>Lacks Features of Effective PBL The project has one or more of the following problems in each area:</td>
</tr>
<tr>
<td>Key Knowledge, Understanding, objectives &amp; Success skills</td>
<td>The project is focused on teaching students specific and important knowledge, understanding, and skills derived from standards and central to academic subject areas.</td>
<td>The project is focused on standards-derived knowledge and understanding, but it may target too few, too many, or less important goals.</td>
<td>Student learning goals are not clear and specific; the project is not focused on standards.</td>
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<td>Important success skills are explicitly targeted to be taught and assessed, including critical thinking/problem solving, collaboration, and self-management.</td>
<td>Success skills are targeted, but there may be too many to be adequately taught and assessed.</td>
<td>The project does not explicitly target, assess, or scaffold the development of success skills.</td>
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<td>All learning objectives clearly align with state and/or national standards/frameworks, and benchmarks of the subject area(s).</td>
<td>Some learning objectives align with state and/or national content standards and benchmarks of the subject areas.</td>
<td>Relationship between learning objectives and state and/or national content standards and benchmark is unclear.</td>
</tr>
<tr>
<td>Accommodations/differentiation of instruction</td>
<td>Unit has well defined accommodations to support a diversity of learners.</td>
<td>Unit has some accommodations to support a diversity of learners.</td>
<td>Unit has no clear accommodations for diverse learners.</td>
</tr>
<tr>
<td>Technology Integration/Use</td>
<td>Proposed technology use is engaging, age appropriate, beneficial to student learning, and supportive of higher level thinking skills. The technology enhances student learning of the content, increases innovation and promotes creativity.</td>
<td>Proposed technology use is engaging and age appropriate, and promotes conceptual understanding</td>
<td>Proposed technology is not age appropriate, nor engaging, and does not enhance student learning.</td>
</tr>
<tr>
<td>Challenging Problem or Question</td>
<td>The project is focused on a central problem or question, at the appropriate level of challenge. The central problem or question is framed by a driving question for the project, which is: open-ended; it will allow students to develop more than one reasonable answer. understandable and inspiring to students. aligned with learning goals; to answer it, students will need to gain the intended knowledge, understanding, and skills.</td>
<td>The project is focused on a central problem or question, but the level of challenge might be inappropriate for the intended students. The driving question relates to the project but does not capture its central problem or question (it may be more like a theme). The driving question meets some of the criteria (in the Includes Features column) for an effective driving question, but lacks others.</td>
<td>The project is not focused on a central problem or question (it may be more like a unit with several tasks); the problem or question is too easily solved or answered to justify a project. The central problem or question is not framed by a driving question for the project, or it is seriously flawed, for example: it has a single or simple answer. it is not engaging to students (it sounds too complex or &quot;academic&quot; like it came from a textbook or appeals only to a teacher).</td>
</tr>
</tbody>
</table>
## Sustained Inquiry

- Inquiry is sustained over time and academically rigorous (students pose questions, gather & interpret data, develop and evaluate solutions or build evidence for answers, and ask further questions).
- Inquiry is driven by student-generated questions throughout the project.
- Inquiry is limited (it may be brief and only occur once or twice in the project; information-gathering is the main task; deeper questions are not asked).
- Students generate questions, but while some might be addressed, they are not used to guide inquiry and do not affect the path of the project.
- The “project” is more like an activity or “hands-on” task, rather than an extended process of inquiry.
- There is no process for students to generate questions to guide inquiry.

## Authenticity

- The project has an authentic context, involves real-world tasks, tools, and quality standards, makes a real impact on the world, and/or speaks to students’ personal concerns, interests, or identities.
- The project has some authentic features, but they may be limited or feel contrived.
- The project resembles traditional “schoolwork;” it lacks a real-world context, tasks and tools, does not make a real impact on the world or speak to students’ personal interests.

## Student Voice & Choice

- Students have opportunities to express voice and choice on important matters (questions asked, texts and resources used, people to work with, products to be created, use of time, organization of tasks).
- Students have opportunities to take significant responsibility and work as independently from the teacher as is appropriate, with guidance.
- Students are given limited opportunities to express voice and choice, generally in less important matters (deciding how to divide tasks within a team or which website to use for research).
- Students work independently from the teacher to some extent, but they could do more on their own.
- Students are not given opportunities to express voice and choice affecting the content or process of the project.
- Students are expected to work too much on their own, without adequate guidance from the teacher and/or before they are capable.

## Reflection

- Students and teachers engage in thoughtful, comprehensive reflection both during the project and after its culmination, about what and how students learn and the project’s design and management.
- Students and teachers engage in some reflection during the project and after its culmination, but not regularly or in depth.
- Students and the teacher do not engage in reflection about what and how students learn or about the project’s design and management.

## Critique & Revision

- Students are provided with regular, structured opportunities to give and receive feedback about the quality of their products and work-in-progress from peers, teachers, and if appropriate from others beyond the classroom.
- Students use feedback about their work to revise and improve it.
- Students get only limited or irregular feedback about their products and work-in-progress, and only from teachers, not peers.
- Students do not know how or are not required to use feedback to revise and improve their work.

## Public Product

- Student work is made public by presenting or offering it to people beyond the classroom.
- Students are asked to publicly explain the reasoning behind choices they made, their inquiry process, how they worked, what they learned, etc.
- Student work is made public only to classmates and the teacher.
- Students present products, but are not asked to explain how they worked and what they learned.
- Students do not make their work public by presenting it to an audience or offering it to people beyond the classroom.