

**Middle School Organization
Mark Warner, Ed.D.
Associate Professor
Augusta State University
Augusta, Georgia 30904**

Copyright 2002

About the Instructor

Current Position: Associate Professor, Teacher Development Chairperson, Department of Teacher Development, College of Education

Education:

Ed.D., Doctor of Educational Leadership, Appalachian State University

Dissertation: Effects of Participation in Two Activity Systems on Changing Pre-service Teachers' Beliefs about Teaching, Learning and Pupils, May 1997

M.Ed., Master of Education, Counseling, Antioch Graduate School of Education, August 1974

B.S., Bachelor of Science, Economics, Wharton School of Business, University of Pennsylvania, May 1970

Honors: Friars Senior Honors Society, Captain Varsity Football, 1969, All Conference Football, 1967

Professional:

Assistant Professor, Department of teacher Development

Experience:

Augusta State University

August, 1998 to present

ECED 3222 Early Childhood Math Content Pedagogy

MGED 3111 Middle School Curriculum

MGED 3112 Teacher/Student Roles in the Middle Grades

MGED 3213 Middle School Organization

MGED 3241 Middle Grades Social Studies Content Pedagogy

MGED 3240 Learning in the Disciplines, Social Studies

MGED 4110 Teaming in the Middle Grades

MGED 4111 Classroom Management and Authentic Assessment

EDTD 6011 Instructional Technology Management

EDTD 6262 Problem-Based Learning

Augusta State University Website <http://www.aug.edu/~mwarner>

Part I: Introductory Information

Institutional

Name of University:

Augusta State University

Total Enrollment:

550

Augusta State University is a public institution of the University System of Georgia

Carnegie Classification:

Master's Colleges and Universities I

Individual

School:

College of Education

Department: Teacher Development
Rank: Associate Professor
Highest Degree Earned: Ed.D.
Years Teaching Higher Education: 3 adjunct/4 full time tenure track

Course

Course Name: Middle School Education
Course Number: MGED 3213
Semester Hours: Three
Catalog Description: Students will examine the Middle School as an organization. Middle School philosophy and the origins of the Middle School movement will be examined as the basis of organizational components such as teaming, flexible scheduling, interdisciplinary curriculum, parental/community involvement programs and educational structures built to meet student/adolescent needs.
Number of Students: 20
Student Year: Junior
Course Description: Required course for majors

Problem-Based Learning

PBL percent in course: 100
How long using PBL: 2 years
PBL Designation: No

Part II. Design of the Course

A. Rationale

Recently, the *Middle School Journal* devoted an entire issue to reinventing the middle school. In a lead article, two authors (Dickinson & Butler, 2001) examined a number of elements that have contributed to arrested development in middle schools. One of the most prominent elements presented in this list was the lack of teacher education programs and licensure that focus on the middle school level. Since this assertion is undeniably true, I became even more inspired and committed to preparing teachers in middle school theory and philosophy, developing appropriate curriculum and instruction for young adolescents, and contextualizing the place and purpose of middle school organizational practices. I believe meeting this challenge to practice what I preach, is most appropriately addressed by using an approach to teaching and learning called problem-based learning (PBL) (Sage, Krynock, & Robb, 2000). It is my desire to provide an authentic example of how an emergent PBL course supports middle school theory, inspires the mining of appropriate quality core curriculum and instruction for young adolescents, and provided a context for utilizing middle school organizational practices.

B. Reflective Essay on the Course Content

While designing courses for prospective teachers, I ask myself a question: What do I want my students to experience during the semester that will inform them about experiences and opportunities that they will design for their future young adolescent students? It is my hope that prospective teachers will deepen their understanding, have opportunities to conduct action research, participate fully as group citizens, work independently from my instruction, set goals and make internal deadlines, help refine organizational skills, engage in healthy competition, and believe that their collective efforts make a difference in their preparation.

With this in mind, I explored problem-based learning (PBL) as a means by which prospective middle grades teachers could design interdisciplinary units and gain familiarity with this promising instructional strategy. Ordinarily, interdisciplinary units address a particular theme such as "Culture," "Individuals, Groups, and Institutions," or "Global Connections" (NCSS, 1994) and teachers on middle school teams use their particular content discipline to help students make connections across the curriculum. Even though this is a quantum leap from teaching the disciplines independently, interdisciplinary thematic units

are still ill-equipped to handle the assault from students who wonder, "What are we doing this for?" and "why are we learning this?" Today's middle grades students hunger for academic relevancy to their lives. While themes such as "Culture" respond to essential questions, teachers often must stretch to make these curricular connections to the children's own personal concerns and social issues (Beane, 1993). Problem based learning may stand a better chance at fulfilling the middle school promise (Wiles & Bondi, 2001) of addressing the cognitive and affective needs of the young adolescent because it strikes at the heart of the teachable moment, inspiring learning on a "need to know" basis.

After giving a brief and rhetorical introduction to PBL, my students began designing interdisciplinary problem based learning units using a template formulated by Torpe and Sage (1998). This PBL template is a loosely structured sequence of teaching and learning events that include: (1) meeting the problem; (2) identifying what we know; what we need to know, and our ideas; (3) defining the problem statement; (4) gathering and sharing information; (5) generating possible solutions; (6) determining the best fit of solutions; (7) presenting the solution; and (8) debriefing the problem.

Students were divided into five groups of four; each student on the respective teams majored in a different discipline area. Groups were expected to prepare a comprehensive unit and then design and create web pages suitable for our newly birthed *Teacher Development PBL* web site. I thought this assignment was a bold stroke of genius that would model my role as a facilitator, subsume all of the content for this middle grades curriculum course, and satisfy the cravings and appetites of my prospective teachers. PBL stood poised to resolve whatever struggles I may have endured over the years to find the union of teaching and learning. I had finally reached the zenith of modeling social constructivist pedagogy.

My students were obliging and even feigned enthusiasm when appropriately cued; however, something was missing. There is nothing supernatural about the promised effects of PBL if undergraduate prospective teachers have to manufacture real world problems in the college classroom. While each group did an outstanding job, I was disappointed because I wanted our prospective teachers to be as passionate about PBL as I. Resolving not to be defeated, I planned to use PBL in my forthcoming spring Middle Grades Organization Class not as a module, but to direct the flow of the entire class curriculum. I was inspired by the work of some faculty members (Allen & Duch, 1998; White, 2000) from the University of Delaware during the PBL 2000 conference sponsored by Samford University earlier that fall.

C. Reflective Essay on Instructional Practice

On the first day of spring semester, I informed my class (the same cohort who had used PBL in the fall), that we would again use the PBL format to design an ideal middle school. I posted the course outline on my web site and correlated each week's assignments with a distinct stage of a PBL unit. Students did not disguise their yawns and rolled eyes as we viewed the course outline. Then we experienced serendipity. On the second day of class, Neal, an enthusiastic student, made a dynamic proposal. Would we as a class like to provide information for the design of a new middle school for the county in which he lived? Apparently, the evening before class, Neal attended a school board meeting in his hometown and discovered their plan to build a new middle school in a few years. After the meeting, Neal talked to the county's superintendent of schools and shared with him our class assignment for the semester. The savvy superintendent asked Neal to elicit class assistance in conducting research on middle school best practices. Our involvement was galvanized when Neal hand-delivered a letter of request from the superintendent. The letter read as follows:

Dear Dr. Warner:

Upon conferring with the Chairman of the Board of Education, we have become aware of your class assignment for your middle school organization course. The idea of having your students design the "ideal" middle school should be challenging. This project could be of benefit to the local school board in our county. As you are aware the district is in the initial stages of planning for the construction of a new

middle school. It would be helpful if your class could direct its efforts to designing what the class finds to be an ideal middle school for our county. Upon completion of your research, the Board would like for your class to present its findings at one of our regular Board meetings. Your research should be very informative to us as our district moves forth in the planning stages of a new school. If you are interested, please let me know.

As I read the letter aloud to my class, their eyes widened at the thought of conducting, showcasing, and presenting their findings to a real audience. A genuine appetite for providing assistance to fellow citizens replaced the veneer of passion for PBL that I had experienced in the fall. All learned an important lesson; PBL is impassioned when it materializes as a response to a cry for help, satisfying a deep psychological need-- the need to know that our efforts are significant and meaningful to ourselves and to others for whom the work is being done (Glaser, 1986).

Given our time constraints and high stakes performance, I experienced a momentary lapse of reason and was genuinely tempted at this point to abandon some of the prescribed stages of a PBL and cut to the chase. As a former corporate supervisor, I felt the adrenaline level rising and knew how to get the job done expeditiously. Fortunately, my students sussed this attempt and reminded me that they are prospective teachers, not hired consultants. They wanted to experience the full measure of PBL so that they could anticipate how they might best use PBL in their future classrooms.

The class agreed to proceed by using the existing PBL flow chart (Torpe & Sage, 1998) for our teaching and learning events and to provide markers for deadlines once the actual date of our presentation was established. We also determined that we would use the passworded Internet bulletin board on my web site to engage in ongoing, asynchronous group conversations and constructive criticisms about our progress. Additionally, the bulletin board would be used as a clearinghouse for our data collection readily accessible to all students.

D. PBL Context and Application

1. Meeting the Problem

A fundamental goal of meeting the problem is to enable participants to acquire a genuine purpose for dedicating their personal investment of time, energy, and talents devoted to finding a solution to the problem. In other words, is the problem worthwhile? The letter above from the superintendent provided an exhilarating invitation to meeting the problem and satisfied the necessary criteria for making the problem worthy of the class' consideration.

2. Identifying What We Know, What We Need to Know, and Our Ideas

During this critical stage of PBL, learners activate prior knowledge about the problem situation and develop an awareness of what they need to know to lend focus for preparing to gather information requisite for solving the problem (Torpe & Sage, 1998).

Demographics. Many of the students in class had already "practice taught" in the area's only rural PDS middle school in the county in question. Beyond their experiences, students mined demographics from the school's Web site.

Literature Review. As the first step in preparing for the undertaking, students were asked to consider the tenets of the middle school philosophy as it was originally envisioned by its founding fathers (McKewin, 1996). Working in groups, and reflecting on their experiences in various middle schools in the area, students created a summary of middle school principles around four basic components: organization, curriculum, instruction, and assessment. Each group conducted a preliminary search of the literature concerning best practices in their component area. Groups used brainstorming techniques such as Concept Maps and Know Charts to help frame the direction of their tasks.

Presentations. Class time was reserved for an information sharing session as preparation for each group's 15-minute class slide show presentation. Presentations included graphics, text, and music to assist in instructing their audience.

Field Trip. As a further exercise in identifying best practices, students made a site visit to a self-proclaimed "True" Middle School (TMS) in a suburb of Atlanta. The forward-thinking principal of the largest middle school in the country (nearly 3200 students) spent time with the class and answered questions regarding issues related to organization, curriculum, instruction, and assessment. Upon hearing about our class project, the principal strongly suggested that we conduct a needs assessment survey including all stakeholders in the community. She stated that the community would more readily receive our presentation of best practices if recommendations actually supported some of their own insights. She emphasized the need to "come along side" when providing help rather than giving the appearance of an outside consultant hired to "fix" the community. Problem based learning stresses the idea that we are *all* hard-wired to solve problems.

Trip Debriefing. The class met to debrief from our "true" middle school visit from the previous week. Students were particularly impressed with the hands-off administration, the high degree of autonomy left to teams and teachers, the integration of student choice in a number of areas (from the cafeteria to a wide range of exploratory courses), and the general sensitivity to consider the needs of the adolescent.

Next Steps. Much discussion centered on identifying the particular final product that the class would be presenting to the School Board. Thoughts rested on a best practices model for a middle school that incorporated the cultural uniqueness of this rural county. With the beginning structure of the class' goal laid before us, several issues emerged as areas for development. There was recognition on the part of the facilitator and students that individuals within the class bring differing strengths to the project and that these need to be excavated for the good of the project as a whole. Emerging opportunities for specialization in the project included: (1) identifying individuals who are more at-ease with speaking publicly than others and honing the skills of these individuals for a tight and polished final presentation; (2) identifying individuals with technical expertise who would construct a final presentation package and web site for the project--this sub-group would include graphically/artistically talented individuals as well; and (3) identifying and utilizing individuals with strong research skills to comb the literature and derive best notations to reference the scholarly work that exists to support class recommendations.

Students discussed the importance of performing a needs assessment, as recommended by the principal in our school visit, as the next step. Four groups were identified as key stakeholders to the new middle school plan: (1) students; (2) teachers; (3) parents; and (4) the Board of Education members in the county. Students assigned themselves to these sub-groups and agreed to prepare preliminary questions that would be "tested" with a small group from each class of stakeholders. In turn, the questions were revised and a larger random sampling within each group would be identified and the needs assessment conducted. It was hoped that the needs assessment, combined with a thorough review of the literature, would be the vehicle that would merge best practices from the rural County's perspective and make the final product relevant.

Class sub-groups met to determine the method they would use to perform the needs assessment of their various stakeholder groups and to begin to develop their instrument for information gathering. Methods varied across the groups as follows:

Student Group: They planned to work with small groups of students from the various grades (6-8 students each) and conduct focus group interviews. The questions would be adapted to meet the needs of students (concrete) and would move from the general to the more specific. Sessions with the students would be recorded for review.

School Board Group: They planned to conduct a face-to-face interview to get at difficult issues, solicit in-depth answers, and to size-up our future presentation audience.

Teachers Group: This group planned to introduce their project and survey needs by e-mail to a sample of teachers. The class discussed the merits of making personal phone calls to teachers as a means to get a higher response rate.

Parents Group: This group planned to use a combination of e-mails and written surveys after introducing the project at a PTO meeting.

Part III. Student Understanding

A. Evidence of students meeting the learning objectives—the following rubric was used to establish criteria for each phase of the PBL experience:

http://www.aug.edu/~mwarner/EDTD6262_PBL_Rubric.htm

1. Getting to a Problem Statement

In this stage of the PBL, learners clearly articulate the problem situation embedded in language that also presents a workable solution. Students came to their next class with their respective group's survey questions prepared and a plan for contacting their respective constituents at the current Middle School. The survey/focus group work of the needs assessment progressed on its own path with the school serving as a resource for organizing the sessions and access to the groups. Students learned the important lesson of going through the proper channels in any project.

The class spent time summarizing what they knew, what more they wanted to know, and ideas for getting that knowledge as a preamble to defining the problem statement. Across the various groups, an impressive list of what students already knew about the school and best practices in the middle school was assembled and shared among all. The "want to knows," focused on knowing the needs of the stakeholders, understanding the county's overall decision making process, and adding to our prospective teacher knowledge of best practices adapted to the school's specifications. We discussed a broad range of ideas for getting additional knowledge and/or presenting the information during our final presentation to the school board. Ideas included:

(1) completing the needs assessment and then infusing the results into a best practices model, (2) identifying the desirable attributes of a successfully educated middle school student and then determining how TMS might engage the education process, and (3) working from the known needs profile of a young adolescent and defining how best practices might meet those needs.

At the close of the session, students considered a problem statement for the project drafted: How can we design a middle school for the County that utilizes best practices for all of the stakeholders affected? After some careful reflection, we realized that the language of this problem statement cast us in an architectural role. A little metacognition reminded us that we were not asked to design the new school, but rather to provide information in such a way that community stakeholders would be better prepared to make informed decisions. The statement was revised to be: How can we provide information on middle school best practices in order that the County can optimize the planning of their future middle school?

2. Gathering and Sharing Information

During the gathering and information sharing stage of PBL, learners plan and implement effective information gathering, sharing, and meaning-making strategies. Students gain an increased understanding of how information contributes to comprehending the problem and how information is evaluated in light of its contribution to that comprehension.

The class focused on three tasks: assembling reference materials, identifying and installing the technology sub-group, and finalizing details on the needs assessments.

Assembling reference materials: All students were responsible for identifying and adding to a compendium listing of best practices references, materials, and teaching tools that would provide additional resources to the County and that would inform the presentation.

Installing the Tech Group: Five students were selected, based on their interest and technology expertise to be the design team for the website that would accompany the final presentation.

Finalizing the needs assessment: Each sub-group met to refine survey questions and/or format in anticipation of using the instrument.

The facilitator for the PBL made arrangements at the middle school for student and faculty survey group meetings through a central coordinator at the school.

A graphic of the various teams and work groups may be helpful in understanding the inner-workings of the project. Students, in various combinations, populate at least two groups each. **(See Figure 1)** Subsequent class meetings served as large group organizing sessions and as small group working sessions. With such a large and engaging project, students requested mid-point due dates for key components of the project and created methodologies for keeping the project on task.

Organizing Session: Dates and format of the task were discussed with the class in total. Decisions were reached regarding: Creation of a group-specific rubric for the presentation assessment. Delineation of assessment methods that would be used: group, individual, and intra-group. Needs assessment completion dates and analysis of data required. Content for the final assessment presentation, including completion dates and formats.

Working Session: The various sub-groups met to determine direction and content on their components of the final presentation.

From this point forward, students would work in their self-guided groups to deliver a product that would then be compiled and made seamless for final presentation. Goals for each group's final product included: (1) creating a cohesive and organized presentation; (2) targeting the audience; (3) generating an interesting and creative design; (4) focusing on a central theme to tie ideas/concepts together; (5) considering the most relevant information; (6) working on seamless organization; and (7) ensuring contributions from all members.

These same goals would guide the class in their creation of a rubric that could be used for assessment. In preparation for completion of the rubric required, members reviewed ideas at their next sessions and made final decisions and adjustments to the working documents.

Rubric Design Issues and Discussion: The class finalized a rubric that could be used for all groups on the PBL project with a strong focus on full group participation. Given that one common criticism of group work can be the dissociation of the group in terms of equitable workload, the groups decided to address this issue head-on by allotting 30% of the final grade to evidence of full group participation and teamwork. In order to meet the needs of their rubric, a journal of each member's contributions was kept for the group. The groups' remaining rubric components included presentation and content measures. **(See Figure 2)** http://www.aug.edu/~mwarner/Rubric_PBL_Project.htm

Central Focus and Unifying Theme Issues and Discussion: The group worked hard to identify a central focus for the presentation. For example, discussions included initial results of research surveys and how to espouse one particular view on a topic when research on both sides of an issue is plentiful. In particular, this was found for ability grouping; ample research exists for both sides of this issue. The class decided to promote the research related to heterogeneous grouping because it is best practices according to middle school philosophy. This issue may prove difficult to discuss in the presentation given that students know TMS is currently very committed to ability grouping.

3. Generating Possible Solutions

In this stage of the PBL, learners recommend solutions based on the information they have gathered. For example, the Organization Group reviewed each individual team member's presentation. Presentations ranged from 6 – 12 slides in length. Included in the slides were schematics, talking notes for the final presenter, elements in the content that followed the central theme of teaming (the centerpiece of middle school organizational best practices), and other design features. Because the group must take its five presentations and turn them into one coordinated effort, the group talked

considerably about how to approach the final product and what guidelines might be used for constructing it. Guiding principles included:
Time constraints (the Organization presentation should be no more than 15 minutes that equated to roughly 15-25 slides)

How to use the slides to engage the audience. The group chose to infuse the presentation with pictures and schematics as much as possible. All agreed that the schematics needed to be simple and be able to stand on their own without explanation, professional looking, and best if used for summarization or linking component parts of the presentation.

Importance of making the presentation specific and relevant to the community for whom the project was designed.

B. Reflection on the evidence of student learning

1. Determining "Best Fit" Solution

Additional work sessions were devoted to finalizing each group's submission to the full class product. In order to optimize member strengths and interests, the group assigned various members' particular responsibilities. For example, in each group two students selected as spokespersons focused on the final slide selection, modification, and content to create a unified presentation. Other students focused on perfecting schematics, proofreading, and artistic design of the slides. This group also acted as critics to the other students to ensure that content was clear, flowed well, and was TMS-relevant.

During the work to create a final product, the tone and feel of the presentation were the main points of group discussion. Since the content was technically "done," or at least in a malleable form for the final product, the class discussion turned to topics that would define the actual oral presentation including: Members discussed the specifics of making the presentation appropriate to TMS without making assumptions/judgments about their capabilities or willingness to adapt to the best practices recommendations.

Much time went to determining the right "pitch-level" of the presentation so that it would not be too basic, but would also provide enough information for school board members who may be less informed on the topics.

Members decided that while they wanted the presentation to be professional, they wanted the speaking style to be culturally relevant as a way to disarm the audience that might think, "we don't know how it is in the real world." The group felt that it would be important to use the term "we" rather than "you" when possible and to act as allies to the project rather than consultants.

They also felt that it would be important to "step out" of presentation mode when possible during the presentation to personalize the comments based on our own experiences at TMS or other area schools for illustrative examples.

2. Presentation and Debriefing

Prior to our presentation, we conducted a few dress rehearsals to illicit feedback so that we could make final changes and refinements. During the rehearsal, members of the class role-played various community stakeholders who asked the kind of questions we anticipated during the actual presentation.

The day of the long awaited presentation finally arrived. We all met in the District School Board parking lot wearing coats and ties, dresses, and freshly shined shoes. After gathering all of our high tech presentation equipment, we entered the building and were greeted by the district superintendent, members of the school board, classroom teachers, and interested parents.

Our presentation was an overwhelming success. These prospective teachers spoke confidently about their understanding of adolescent needs and presented their well-researched best practices for middle school organization, curriculum, instruction, and assessment (<http://www.aug.edu/~mwarner/middle/Welcome.html>). Many of these future teachers took turns fielding questions from a curious audience whose interest was peaked by their first hand hearing of new ideas. Members of the County-wide School Board were pleasantly surprised by the wealth of information presented and neatly organized in a web site specifically designed for their continued reference. After the presentation, the county's assistant Superintendent spontaneously summarized the school board's approval by pulling out a pile of new teacher application forms accompanied by a standing ovation from all those who attended the meeting.

After our presentation, we all met in a reserved room in a local restaurant to review the effectiveness of the strategies we used and to consider what we might do differently given another opportunity. Most everyone seemed well satisfied with our performance in both the scripted and non-scripted parts. It was clear that our diligence in the preparation and planning phases of this demonstration and our somewhat religious adherence to the PBL template really paid off. This positive experience reinforced the theoretical suppositions posited by the architects of PBL and encouraged these prospective teachers to strongly consider implementing PBL in their own future classrooms. Our debriefing provided a sense of completion to the learners who became personally invested in the problem.

IV. Reflective Summary of the Course

The course portfolio outline provided a deliberate and systematic guide for evidencing student understanding, application of ideas, and reflection and refinement of student performance. We are not prepared to rush to judgment about the effectiveness of this particular PBL experience until the new middle school in this county is built and occupied. Furthermore, the jury is still out about the effects of PBL on prospective teacher preparation until these initial certification candidates utilize PBL as an instructional strategy in their own classrooms. However, we were able to garner some feedback on the immediate use of PBL to cover this course's content when compared with the traditional delivery of course content. A synthesis of student outcomes provides some conclusive documentation for reasons to continue to use PBL. Reflective comments read as follows:

"Rather than covering all topics somewhat superficially, this project allowed us to delve into one area in *more depth*."

"It exposed us to *more research* that enabled us to more fully appreciate the issues at hand. We look to our fellow classmates to prepare us adequately through their work on the topic that was not ours to develop."

"We had to work for an extended period in a group and *work out issues*. Often times, having to work in class as a group for just one class period, issues never come up because the time is brief. Long-term groups allowed us to *be better group citizens* and prepared us for actual team membership when we assume teaching positions in real middle schools."

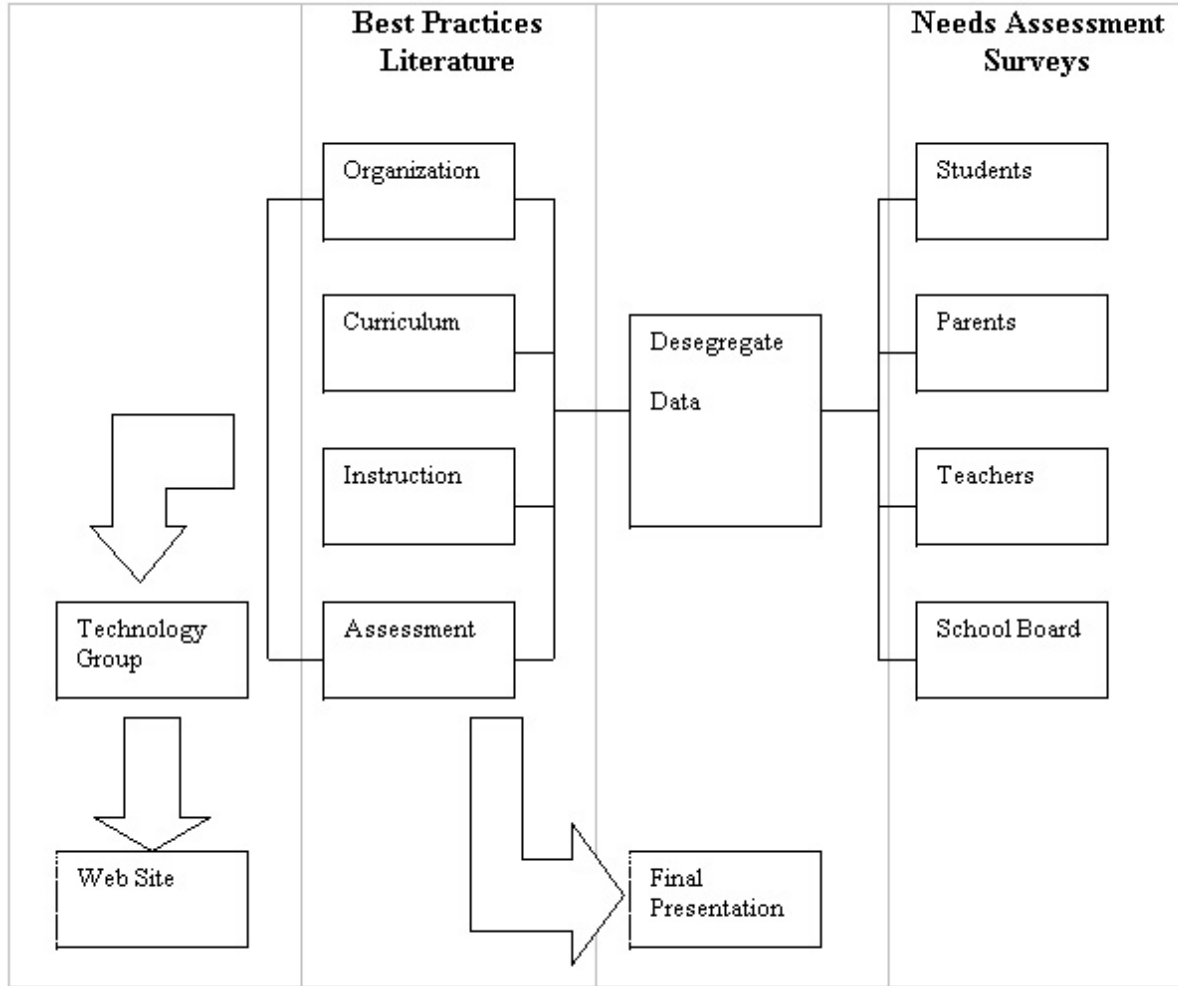
"We had to *work independently* rather than rely on the teacher to tell us what to do. It required us to *set goals and deadlines internally* and *refine our organizational skills* because someone wasn't setting them for us. This too was good preparation for being a real teacher."

"We had a little *healthy competition* infused into the class. Not only did we each want the best presentation, but we all wanted to make something great in total for the good of the group."

"We see this exercise as relevant and real and that our collective butts are on the line. In a traditional class, things are artificial and there is little at stake except for a grade. This goes more to the heart of our personal and professional pride. We might even *make a difference*."

Comments such as these make me conclude that the course was a successful one. The difference for my students rested on successfully crafting the dynamics embedded in crucial elements of problem-based learning. Given a captivating and relevant problem, freedom to work creatively and collectively, and trusting that students will rise to the occasion are essential components of learning in this unique and meaningful way.

Middle School Organization
Figure 1 - Project Working Groups



Middle School Organization
 Figure 2 - Rubric for PBL Project

Scale for all components is 1-4, 4 is high

Measure	Exemplary 4
Content (35%: each worth 5%)	<ul style="list-style-type: none"> » Well-researched (Points made with well-chosen research) » Complete to Topic (Hit high points and low points appropriately) » Concepts understood (Shows depth of understanding, synthesis of ideas) » Well-written (Language, mechanics) » Meets goal of final product (Merges TMS needs and best practices) » Organized (Message is clear, not a collection, but well-knit) » Seamless to full class product (Doesn't appear to be fifth wheel)
Presentation (35%: each worth 5%)	<ul style="list-style-type: none"> » Organized (Intro, flow, and conclusion) » Well-delivered (voice, energy, appearance, professionalism, etc) » Appropriate to Audience (geared to needs and level) » Well-designed slides (viewing, language, stylistic choices) » Able to handle questions completely and appropriately » Seamless to overall presentation (smoothly orchestrated) » Confidence and pride in product
Group Work (Your choice how to show this happened) (30%: each worth 15%)	<ul style="list-style-type: none"> » Evidence of full member contribution » Demonstrated success to work as a group effectively

References

- Allen, D., & Duch, B. (1998). *Thinking towards solutions: Problem-based learning activities for general biology*. Fort Worth, TX: Harcourt College Publishing.
- Beane, J. (1993). *A middle school curriculum: From rhetoric to reality*. Columbus, Ohio: National Middle School Association.
- Dickinson, T., & Butler, D. (September, 2001). Reinventing the middle school. *The Middle School Journal*, 33(1), 7-13.
- Glasser, W. (1986). *Control theory in the classroom*. New York: Harper & Row.
- McKewin, K. (1996). *America's middle schools: Practices and programs-a 25 Year perspective*. Westerville, Oh: National Middle School Association.
- National Council for Social Studies. (1994). *Curriculum standards for social studies: Expectations of excellence*. Washington, D.C.: NCSS.
- Sage, S., Krynock, K. & Robb, L. (2000). Is there anything but a problem? A case study of problem based learning as middle school curriculum integration. *Research in Middle Level Education Annual*.
- Torpe, L. & Sage, S. (1998). *Problems as possibilities*. Alexandria, Va.: Association for Alexandria, VA Supervision and Curriculum Development.
- White, Harold B. (2000). Dan Tries Problem-Based Learning: A Case Study
<http://www.udel.edu/PBL/dancase3.html>
- Wiles, J., & Bondi, J. (2001). *The new American middle school: Educating preadolescents in an era of change*. Columbus, Ohio: Merrill Prentice Hall.