Information to include on the title page of the report:

- Date: February 2013
- Organization: Western Kentucky University
- Contact Persons: Dr. Janet Tassell and Dr. Marge Maxwell
- Program Name: Toyota Math, Technology, and Leadership Academy (Toyota MTLA)
- Grant Amount/Year Awarded: $250,000 first year, $500,000 over three years
- Period Covered by Report: April 2010 to February 2013
- Indicate if this is a Progress Report or Final Report: Final report

Please keep the report in a high level narrative format with bullet points. We welcome photos, charts and visuals that will demonstrate the status and results of the project.

Table of Contents
Click links or use page numbers.

- Executive Summary 1
- Challenges 3
- Communications 3
- Evaluation 6
- Budget 6
- Diversity Population and Statistics 7

All Year 3 Updates are in Green Text

Year 2
Appendix A: MTLA Content Project 11
Appendix B: Scholar Professional Growth Plan and Mini-Grant Application 13

Year 1
Appendix A: Digital Story created by Toyota MTLA participant and her students
Appendix B: Communication with Toyota MTLA participants via BlackBoard
Appendix C: Toyota MTLA Application and Letter
Appendix D: ELED 571 Leadership, Math and Technology Course Syllabus
Appendix E: Leadership Growth Plan section of MTL Growth Plan
Appendix F: Problem Solving Task; completed by Toyota MTLA participant and her students

- Executive Summary - Overview to feature all the highlights (two pages)
  - Partnership Milestones
    - Year 1 Targets
      - Selection of Toyota MTLA Participants
      - Application developed
      - Directors talked to principals
      - Teachers submitted applications
      - Directors interviewed applicants
      - Toyota MTLA Participants were selected
      - Data Collection for Research
      - Pre- and post-assessments will be collected on three sets of educators (Toyota MTLA Participants, another teacher at their school who will be the control group, and the school principals) on the following:
        - Leadership style and qualities
        - Math efficacy surveys
• Technology Integration levels
  • Number of participants and caregivers in after-school program at the Bowling Green Housing Authority (BGHA)
  • Offer three graduate courses, each course runs 10 weeks
    o ELED 571 – Leadership, Math and Technology
    o ELED 572 – Math and Technology Methods for Diverse Learners
    o ELED 573 – Math and Technology Assessments, Interventions, and Success
  • Toyota MTLA participants will plan their Math, Technology, and Leadership Growth Plan that includes the following components:
    o Describes strengths and growth area in Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics and International Society for Technology Education (ISTE) Teacher Standards
    o Plan of Action, Impact and Evidences; describes programs that they will implement and provide over the next two years of the Toyota MTLA Academy
  • Bowling Green Housing Authority will submit a report outlining number of participants and caregivers in after-school program, etc.

Year 2 Targets (2011-2012 Met):
• Completed Year 1 Targets
• Organize Data Collection and Begin Analyzing Data
• Scholars write and are awarded Mini-grants and include:
  o Housing Authority Project
  o Mathematics Leadership Project(s) aligned to AMTE EMS Standard(s)
  o Technology Leadership Project(s) aligned to ISTE Standard(s)
• Toyota MTLA Teams will teach instructional math strategies to HABG tutors and students, and more.
• Continue Seminars
  o Focus on the Scholar teams presenting their work they did at the Housing Authority
  o Focus on Terri Stice giving professional development each time for iPad and iPod apps and Web 2.0 tools
  o Continue spotlighting work that each of the Scholars is completing within their mini-grant and posting on their WordPress blog for their goals.
• Scholars apply to and present at local, state, and/or regional conferences to disseminate what has been learned in MTLA project/initiative
• Housing Authority of Bowling Green will submit a report outlining number of participants and caregivers in after-school program, etc.
• Website being built
• Classroom visitations begun
• Elementary Mathematics Specialist Endorsement (EMS) created
• Interim assessment data and evidence will be collected to show communication to parents regarding technology and mathematics.

Year 3 Targets (2012-2013)
• Completed Year 2 Targets
• All Toyota MTLA Scholars
  o completed their Professional Growth Plan activities,
  o reported on those projects on their blog website,
  o presented at state conference
  o completed teaching projects at the Housing Authority of Bowling Green
• The Toyota MTLA website is completed
• The co-directors visited each MTLA scholar’s classroom in the fall 2013
• All survey data has been collected. The co-directors and Dr. Beckie Stobaugh will analyze this data for future publications and presentations.
• Two seminars were conducted in September and November 2013 focusing on iBooks training and technology integration in elementary math classrooms.
• A final Toyota MTLA Celebration will be held on February 18, 2013 marking the end of the 3-year academy program.

• Grant goal, objectives, components, and target groups
• WKU Mission
Western Kentucky University shall produce nationally and globally competitive graduates and provide optimum service and lifelong learning opportunities for its constituents. WKU is responsible for stewarding a high quality of life throughout its region.

• WKU Goals
Goal 1: Increase student learning.
Promote learning that fully develops individual potential and produces nationally and globally competitive graduates for the workforce.

Goal 2: Develop the student population.
Attract, retain, and graduate an increasingly diverse, academically-talented, and achievement-oriented student population.

Goal 3: Assure high quality faculty and staff.
Attract, retain, and support high-quality faculty and staff.

Goal 4: Enhance responsiveness to constituents.
Respond to educational, social, cultural, and economic-development needs through increased outreach, applied scholarship, service, and innovative opportunities for lifelong learning.

Goal 5: Improve institutional effectiveness.
Commit to continuous improvement of institutional effectiveness and efficiency in all programs and services.

• Toyota MTLA Goals
1. Increase teacher efficacy in math and technology
2. Increase student achievement in math and technology
3. Develop national model for teacher preparation and professional development
4. Increase family involvement in math and technology education
5. Increase access to math and technology opportunities for diverse populations

• Overall Summary of what to expect/learn in this report
This report shows that the award is being administered as proposed. The three courses were taught the first year. In year two the main focus was that the mini-grants were designed, written, awarded, and implemented by the scholars. In Year Three, the scholars completed the mini-grants and Professional Growth Plans. The essence of the award was to align with the goals of increasing mathematics and technology learning in light of leadership, diverse learners, and assessment. Data collection has been set in motion to also study what the award has provided to our institution.

• Challenges
  - Key challenges and solutions
    o Keep up the level of enthusiasm and participation.
    o The Toyota MTLA scholars continued implementation of grant requirements including mini-grants, MTL Growth Plan, and HABG commitments until all was complete.
    o Two timely and stimulating seminars were offered in September and November of 2012.
    o Collect all data for the Post-surveys.
  - List lessons learned and ways program areas improved
    o The participants are teachers that do not necessarily need the course work and credit hours, nor did they necessarily join this project for the cash incentive. This makes it challenging to incentivize the initiative in respect to motivating the teachers to maintain the work level for the courses. This is also a departure of simply providing professional development versus offering rigorous coursework. We continue to discuss with the teachers that this is an intense but rewarding program for them to grow and become leaders in math and technology in their school and community AND implement a mini-grant at their school in year 2-3.
    o When faced with extra funds within the tuition support portion of the budget, we discussed with the Foundation and received approval to offer scholarships to our 14 participants to apply for the funds if they would like to apply for these monies if they would like to pursue the Elementary Math Specialist Endorsement. This meant taking an additional two more 3-credit hour mathematics courses in addition to the three MTLA courses. We recognized that the teachers did use monetary incentives well when given the choice to take two extra courses with a “scholarship”.
    o We also were able to offer $500 as an extra reward to all of the 14 that completed all of the courses at there had been some issues with payroll and payment during the course of the year. They were very thankful for this gesture.
    o The teachers very much appreciate the flexibility to plan their individual plan in their own mini-grant for Toyota MTLA.
    o The teachers learned and appreciate knowing how to write a grant.
Teachers are proud of having an updated resume/vita. The teachers or scholars have all stated that they are glad that they participated in MTLA and are proud of their accomplishments. The teachers have become close friends and colleagues who share in their successes and needs. They claim that MTLA has made them more confident in their own leadership and teaching abilities. They state that their students have learned more, use more technology, and take more responsibility for their own learning.

- List (if any) proposed changes to the project, budget, staff or timeline C5
  - Purchase of Apple Macbook Air computers for scholars in September 2012: We taught the scholars how to create iBooks and convert them to PDF interactive format.
    - Approved by Rick DuBose and Paula Jarboe
  - Changes that were made to the budget were still within the essence of what was intended and were within approval. These were:
    - Used extra tuition funds for scholarship monies for 6 scholars to pay for half of their course tuition.
      - Approved by Rick DuBose
    - Used extra funds to give $500 beyond the $2K originally planned upon for incentive as we do not have 18 participants that will finish the program at this time and were able to pull funds together to make this happen.
      - Approved by Rick DuBose.

Communications
Please tell us how you’ve promoted the program. Where applicable, provide detail in the following areas:

- Conference Presentations by MTLA Scholars
  - Kentucky Council of Teachers of Mathematics (KCTM) -- October 2011
    - “Cultivating Leaders: Toyota Math and Technology Leadership Academy” – Presenters: Marge Maxwell (PI); Janet Tassell (PI); Nita Cole (Scholar)
    - “Technology in the Elementary Classroom” – Presenter: Nita Cole (Scholar) --
  - Kentucky Society for Technology in Education (KYSTE) – March 2012
    - “Digging Deeper: New Ideas in Standards-Based Math” -- Jamie Rector (Scholar)
    - “Elementary Math Teacher Leaders: Toyota MTLA” -- Marge Maxwell and Janet Tassell (PIs)
    - “Tools, Technology and Differentiation...Oh my!” – Erica Cutright, Janet Cole, Haley Gootee (Scholars)
    - “Utilizing Microsoft Excel to Incorporate Philanthropy into the Elementary Classroom” – Presenters: Abby Watkins, Emily Mills, Robert Lightning, Stephanie Lee (Scholars)
    - “Virtual Vacations at the Housing Authority of Bowling Green” – Presenters: Rhonda Napper, Allison Pearson, Tanya Reeder, and Melissa Zimmer

- Presentations:


• Publications:


• Proceedings:


• In Press – coming spring 2013: (All books were authored/edited by Dr. Janet Tassell, Dr. Marge Maxwell, and Dr. Rebecca Stobaugh in addition to some of our Toyota MTLA Scholars)

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 1. (1st ed.). Bloomington, IN: Garlic Press. (author Emily Mills)

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 2. (1st ed.). Bloomington, IN: Garlic Press.

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 3. (1st ed.). Bloomington, IN: Garlic Press. (author Abigail Watkins)

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 4. (1st ed.). Bloomington, IN: Garlic Press. (author Janet Cole)

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 5. (1st ed.). Bloomington, IN: Garlic Press. (authors Allison Pearson and Melissa Zimmer)

Explore the Core: Exceeding the Common Core Mathematics Standards Grade 6. (1st ed.). Bloomington, IN: Garlic Press.

• Coming Soon – Spring 2013: Parenting for High Potential Manuscript featuring the CReaTE work from the Toyota Math and Technology Leadership Academy with a focus on the importance of technology integration with cognitive complexity, real world, and engagement as the other three aspects rounding out the foci.
Media

Press Releases:

- There will be a press release the week of February 11, 2013 about the Toyota MTLA Celebration to be held February 18, 2013.
- By Associated Press Posted Apr. 24, 2011: WKU academy helping teachers with math, technology (posted in over 20 papers in print an online nationally)
- On May 7, 2010 Dr. Sam Evans, dean of the College of Education and Behavioral Sciences, and Jim Wiseman of Toyota Corporation interviewed Dan Modlin for the Drive Time TV show on the local channel WBKO. They also interviewed Amy DeCesare for the Midday show on WBKO.
- On May 7, 2010 WKU President Ransdell, Dr. Sam Evans, Jim Wiseman, Dr. Janet Tassell, and Dr. Marge Maxwell met to discuss the Toyota award. A local newspaper reporter, Liz Switzer, attended, took pictures, and published a news article in the Daily News. ([click here for new article online.](http://www.kentucky.com/2011/04/24/1717784/wku-academy-helping-teachers-with.html))
- Amy Bingham interviewed Dr. Tassell and Dr. Maxwell for the View from the Hill show on WBKO. ([click here to see transcript](http://www.eschoolnews.com/2011/05/01/university-helping-teachers-with-math-technology/))
- WKU News Release - Toyota USA Foundation Awards $500,000 To WKU; Grant Will Support Math And Technology Leadership Academy ([clink link to see news release](http://www.wkumtla.weebly.com/index.html))

Website

- The Toyota MTLA Website is complete at [http://wkumtla.weebly.com/index.html](http://wkumtla.weebly.com/index.html). We will continue to post more information about MTLA projects, seminars, conferences, etc. Each of our Scholars has an individual WordPress Blog that is linked to this Toyota MTLA Website.
Elementary Mathematics Specialist website is completed: [http://www.wku.edu/online/grad-certs/ems.php](http://www.wku.edu/online/grad-certs/ems.php)

- Screenshots of web content developed and images of the program
- Screenshot of BB, blogs, storyboard, DBs
  - See Appendix A below for sample digital story of one Toyota MTLA participant
  - See web screenshots below

Web screenshot of ELED 572, second course in Toyota MTLA sequence, in BlackBoard (course management system)

Web Screenshot of one Toyota MTLA participant’s blog reflection about her implementation of math diversity strategies

Web Screenshot of Toyota MTLA participant’s discussion of leadership strategies in elementary mathematics
• Information including number of visitors per month/year number of students served, number participants, consultants
  - 900 K-6 students
  - 14 Toyota MTLA participants—elementary mathematics teachers (began with 18)
  - 5 consultants

• Internal communications including samples from newsletters and mailings BB announcements, original application/letter
  - See Appendix B (click here) for sample BlackBoard announcement and communication
  - See Appendix C (click here) for Toyota MTLA Application and letter

• Evaluation
  - How did you evaluate the effectiveness of the project?
    - Completion of all MTLA Professional Growth Plans and projects
    - All MTLA Scholars completed their blog websites with their project activity reports. See links below:
      - http://cole9466.wordpress.com/
      - http://nitacole.wordpress.com/about/
      - http://cutright.wordpress.com/
      - http://mtlastephanie.wordpress.com/
      - http://flightning.wordpress.com
      - http://emilymtla.wordpress.com
      - http://rhodanapper.wordpress.com
      - http://apearson2010.wordpress.com
      - http://jamierector.wordpress.com
      - https://tmreeder.wordpress.com/
      - http://neesarichardson.wordpress.com/
      - http://abbyjwatkins.wordpress.com/
      - http://mbzteach.wordpress.com
    - All MTLA scholars completed their surveys and statements about what MTLA has meant to them.
    - Sample of a Mini-Grant
      - See sample of Mini-Grant and supporting materials
    - Link to a Completed Housing Authority Project
      - http://sites.google.com/site/wkumtla/home
    - ELED 571 Leadership, Math and Technology course syllabus (click here to see Appendix D)
    - Sample Leadership Growth Plan from one Toyota MTLA participant; (click here to see Appendix E) this will be part of the Math, Technology, and Leadership Growth Plan. Participants will complete the Math section in ELED 572 and the Technology section in ELED 573. As participants complete these...
projects in year two and three, their progress and evidence will be reported in their final Professional Portfolio.

- See Appendix F (click here) for a sample course project—a problem solving task using the Web 2.0 tool Animoto

- Qualitative and quantitative results pre-assessment data collected
  - Pre-assessments surveys collected from Toyota MTLA participants, a control teacher for each participant, and each principal
    - Math Efficacy Survey
    - Leadership Survey
    - Technology Integration Survey
  - MTL Growth Plan, Professional Portfolio, Mini-grants
    - In each course participants will create one section of their MTL Growth plan outlining their strengths and areas of growth with national standards. They will also describe projects they will complete in year two and three.
    - The participants’ Professional Portfolio will present evidence of their completion of leadership, math, and technology projects.
    - Toyota MTLA participants will write mini-grant proposals and final reports.

- Plan for distribution of results Conference presentations (directors and participants)
  - All Toyota MTLA participants are required to present at least one project result at one local or state conference.
  - The Toyota MTLA directors will present project research results at one or more national conferences in year two and three.
  - The Toyota MTLA directors will publish project research results in one or more journals.

• **Budget**

**Year 3 Budget**

<table>
<thead>
<tr>
<th>Year 3 (7/1/12 to 6/30/13)</th>
<th>Beginning Balance</th>
<th>$151,004.19</th>
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<tbody>
<tr>
<td>Expenditures</td>
<td>Projected</td>
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<tr>
<td>Tuition</td>
<td>($28,711.36)</td>
<td>($30,000.00)</td>
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<tr>
<td>Teaching Materials</td>
<td>($2,926.72)</td>
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<tr>
<td>After-School costs</td>
<td>($30,000.00)</td>
<td>($60,000.00)</td>
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<tr>
<td>Program Directors (+taxes, etc.)</td>
<td>($29,247.64)</td>
<td>($24,000.00)</td>
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<tr>
<td>Consultants</td>
<td>($6,000.00)</td>
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<tr>
<td>Final Celebration*</td>
<td>($5,000.00)</td>
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<tr>
<td>Management Fees</td>
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<tr>
<td>Investment Activity*</td>
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<tr>
<td>Conferences</td>
<td>($260.36)</td>
<td>($2,000.00)</td>
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<tr>
<td>Food for Seminars</td>
<td>($403.54)</td>
<td>($500.00)</td>
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<tr>
<td>Stipends</td>
<td>($14,000.00)</td>
<td>($14,000.00)</td>
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<tr>
<td>Total Year 3</td>
<td>($137,064.98)</td>
<td>($141,500.00)</td>
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<tr>
<td>Balance</td>
<td>$13,939.21*</td>
<td>($41,500.00)</td>
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</table>

*Investment Income for the three years was $29,223. The $13,939.21 remainder is from the investment income, not the Toyota award. The Final Celebration on February 18, 2013 is paid from the investment income.

• **Year 2 Budget as of 1/16/2012**

<table>
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<th>Expenditures so far</th>
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<td>Teaching Materials</td>
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<td>After-School costs</td>
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<td>Mini Grants</td>
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<td>Management Fees</td>
<td></td>
</tr>
<tr>
<td>Investment Activity</td>
<td></td>
</tr>
<tr>
<td>Other (Conferences)</td>
<td></td>
</tr>
</tbody>
</table>
Food for Seminars  ($387.61)
Stipend  ($17,040.00)  ($21,000.00)
Total Year 2  ($107,969.79)  ($161,267.00)
Balance  $136,608.01

- Program budget for Year One

Toyota MTLA Budget

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<th>Item</th>
<th>Cost</th>
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<td>Teaching materials</td>
<td>$36,048.00</td>
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<tr>
<td>Consultants</td>
<td>$8,599.00</td>
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<tr>
<td>BGHA</td>
<td>$30,000.00</td>
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<tr>
<td>Directors</td>
<td>$24,000.00</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
</tbody>
</table>

Total Expenditures as of 2/2/11  $163,684.00

- Diversity Population and Statistics
  - How many clients did you serve in your Toyota - funded program?
    - 14 Toyota MTLA Participants and 900 K-6 students
  - Did your organization intensify assistance by adding services or activities? If so, how?
    - Collaboration helped intensify the program:
      - Jerry Hatcher – Trainer for DISC Leadership
      - GRREC (Green River Regional Educational Center) – Terri Stice; consultant for technology education
      - WKU Math Department; Vivian Moody; collaborator for mathematics education
      - WKU Literacy Center; Pam Petty; program planning and implementation
      - WKU Assistant Professor; Beckie Stobaugh; consultant for professional growth plans
  - Development of Elementary Mathematics Specialist (EMS) Endorsement, P-5: The courses developed for the Toyota MTLA initiative are the pedagogy courses that are now being proposed for the EMS Endorsement.
  - If your organization decreased assistance or provided fewer services, please explain the decrease and explain why?
    - Not Applicable; the project is progressing as planned.
  - If applicable, what was your client retention rate for the past year?
    - 18 teachers enrolled for the first course. 17 teachers completed course one. 16 teachers have enrolled in course 2.
    - 14 Scholars remain after the third course and into the second year of the initiative and implementation of the mini-grants.
  - Please submit three (3) one paragraph narratives detailing how three (3) particular participants, communities, or institutions have been helped or impacted by the Toyota-funded program.
    - First-grade teacher Emily Mills said she was surprised by the response she got when she made a math video assignment. Mills told The Daily News of Bowling Green that after her students finished the assignment, they continued to make more videos on their own. She called the program “the most beneficial graduate work I’ve ever done.” Read more here: http://www.kentucky.com/2011/04/24/1717784/wku-academy-helping-teachers-with.html#storylink=cpy
    - The Housing Authority of Bowling Green After-School Program continues to help students bridge the gap and move along the continuum of increased academic success through providing programs and projects that assist students in areas of need. Science and math have long been identified as subject areas in need of attention beyond the classroom. Toyota USA funds are providing increased access to science and math activities in the after-school setting to reinforce what students are
learning in the classroom while bringing science and math alive in real world, fun and exciting ways that motivate student interest and success. Specifically, the Math and Technology Leadership Academy project has provided access for after-school staff to trained academic clinicians to provide technical support for projects and programs designed to increase understanding of science and math concepts. Additionally, lesson plans implementation and guest teaching projects are underway to further connect after-school students with MTLA cohort members to expand activities and projects being offered, thus increasing student affinity for and understanding of math and science concepts.

- The following two excerpts are from two different MTLA participants in Discussion Boards:
  1. What perspectives from the readings (Reading 1 "Teaching Children Mathematics"; Reading 2: "What is a Standards-Based Curriculum"; Reading 3: "Everybody Counts) do you think you currently agree with?
     - The ideas in these articles coincide and conflict with what we are doing as a district and state. I think many educators today are asking some of these same questions about how to meet the needs of all children. We are still wondering how to cover all of the areas thoroughly without just glazing over each content section. I think we still have a ways to go as a state and district. Personally, I think if each grade level took a focus area and actually mastered it, the next year we could do a review of that content and it would only be a short focus. This would leave more time for new concepts. For example, in teaching addition and subtraction, the students get approximately 3-5 weeks each year on the content, however if a child does not master it, he quickly forgets about it again until the next year. At that point, the student must basically start from scratch. I feel like if we were given more time to really ensure that students mastered the content early on, time would be used much more wisely in the future.

  2. How might those ideas (in Reading 4, "Using Knowledge of How Students Think About Mathematics" and Reading 5, "Relearning About Arithmetic") affect the way we teach mathematics?
     - Again, I restate that we need to teach students using real life experiences, making meaningful connections, and allow students to solve problems using their own strategies and methods. We also need to allow for mathematical conversations in our classroom, small group work, and whole class discussion to explain our mathematical reasoning and explore others' as well. We need to allow students to use their understanding of our number system to solve problems, even if this means moving away from the traditional algorithms typically taught in U.S. schools. The research backs these ideas up, but it is up to teachers to make it happen in our schools.

Please copy and paste these charts directly into your report and provide the following information regarding program activities:

<table>
<thead>
<tr>
<th>Population</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmentally, mentally or physically disabled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disaster Victims</td>
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<td></td>
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<tr>
<td>Animals, Wildlife</td>
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<td></td>
</tr>
<tr>
<td>Homeless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterans</td>
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<td></td>
</tr>
<tr>
<td>Women</td>
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<td>93%</td>
</tr>
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<td>Men</td>
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<td>7%</td>
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<td>Senior</td>
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<td>Children</td>
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<tr>
<td>Lesbian, Gay, Bisexual, Transgender (LGBT)</td>
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<td></td>
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<tr>
<td>Asian or Asian American</td>
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<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
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<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
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<td></td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
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<tr>
<td>White</td>
<td>13</td>
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<td>If others, please specify K-6 students</td>
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Please provide the following information regarding Staff:
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<th>Category</th>
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<th>Program Staff (No.)</th>
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<td>Black or African American</td>
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<td>Hispanic or Latino</td>
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<tr>
<td>American Indian or Alaska Native</td>
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<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
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<tr>
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<td>Disaster Victims</td>
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Please also tell us about the composition of your Board:

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<td>Hispanic or Latino</td>
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<td>American Indian or Alaska Native</td>
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<td>Native Hawaiian or Other Pacific Islander</td>
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<td>Homeless</td>
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<td>If others, please specify</td>
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- **Program Timeline**
  - Month by month plan
  - Year 1
    - April 2010: Met with School Districts and Principals to Promote and Recruit Toyota MTLA Program
    - June 2010: Applications due/Interviewed Applicants
    - August 2010: Toyota MTLA participants were selected
    - September 13: Kick Off Seminar
    - Oct. 4–Dec. 6, 2010: ELED 571
    - October - June 2011: Participants are learning and practicing instructional practices in math, technology, assessment, and meeting the needs of diverse learners.
    - October-May 2011: Each course offers three seminars for each course at the participants’ schools. Topics include discussion of research, technology demonstrations, guest speakers on leadership and professional growth planning.
    - October/November 2011: Pre-Assessment Data Collection for research
      Pre-assessments were collected on three sets of educators (Toyota MTLA Participants, another teacher at their school who will be the control group, and the school principals) on the following:
      Leadership style and qualities, Math efficacy surveys,
Technology Integration levels

- October 25, 2011: ELED 571, Seminar #1
- November 15, 2011: ELED 571, Seminar #2
- December 6, 2011: ELED 571, Seminar #3
- Jan. 3 – Mar. 14, 2011: ELED 572 Course taught
- January 24, 2011: ELED 572, Seminar #1
- February 28, 2011: ELED 572, Seminar #2
- March 14, 2011: ELED 572, Seminar #3
- Mar. 28 – May 30, 2011: ELED 573 Course will be taught
- April 11, 2011: ELED 573, Seminar #1
- May 2, 2011: ELED 573, Seminar #2
- May 23, 2011: ELED 573, Seminar #3
- June 2011: Data Collected from the Bowling Green Housing Authority regarding number of participants and caregivers in after-school program

Year Two

- June –August, 2011: Toyota MTLA participants will write mini grants to support their planned projects for their schools.
- August-September 2011: Toyota MTLA directors will review and award grants.
- Sept. 2011-June 2012: Toyota MTLA participants will implement their MTL Growth Plan with projects such as teach professional development at their schools, implement innovative math program with diverse learners.
- Sept. 2011-June 2012: Toyota MTLA Participants will be required to present a grant-related component at a local or state conference.
- Sept. 2011-June 2012: Toyota MTLA Teams teach instructional math strategies to BGHA tutors and students, and more.
- June 2012: Bowling Green Housing Authority will submit a report outlining number of participants and caregivers in after-school program, etc.
- August 2011- May 2012: Toyota MTLA Scholars attend Seminars to continue learning about Web 2.0 tools and presenting their progress on their HABG projects and mini-grant projects.

Year Three

- July 2012-April 2013: Toyota MTLA participants will complete implementation of their MTL Growth Plan. Two seminars will be held in fall 2013 to teach how to create iBooks and interactive pdf files.
- January 2013: Post-assessments will be collected on the same three sets of educators (Toyota MTLA Participants, another teacher at their school who will be the control group, and the school principals) on the following:
  - Leadership style and qualities, Math efficacy surveys,
  - Technology Integration levels
- February 18, 2013: Toyota MTLA Celebration will be held to mark the completion of the 3-year program.
- April 2013: Bowling Green Housing Authority will submit a three-year report outlining number of participants and caregivers in after-school program, etc.

• Summary of key milestones
  - Key milestones:
    - Coursework is halfway complete
    - Pre-Assessment data has been collected
    - Leadership projects are underway
    - Mini-grant planning has begun

• Next Steps: List goals for next report and include specific items that will be completed

Directors will seek guest speakers and highlight innovative practices during seminars. The Directors visit program implementations conducted by Toyota MTLA participants. As shown on the timeline above, the Toyota MTLA participants will be working with the HABG and their own schools during year two and three to implement a team project developed in the coursework for HABG and design and implement the mini-grant for their school.
Year 2:
Appendix A:

MTLA Content Project Assignment:
For this project you have many options:
1. Decide the Content; i.e., the type of readings you would like to finish from the first two courses.
2. Decide how you would like to apply this information.
3. Decide the Product; i.e., the Web 2.0 tool(s) you would like to use.

See the general rubric after the outline.

I. **Content:** Select ONE of the following for this assignment:
   A. Finish reading Prensky book—chapters 7, 8, 9, 10, and Conclusion
   B. Choose 5 of the 7 Messages from Faster Isn't Smarter – All articles are posted on BlackBoard under Course Documents.
      - Message 11: "Weighing Hens: Looking at Benchmark Testing"
      - Message 18: "Faster Isn't Smarter: The Trap of Timed Tests"
      - Message 19: "Embracing Accountability: Surviving the Test While Teaching Good Mathematics"
      - Message 22: "We Don't Care About the Answer: Yes We Do -- Looking For Balance"
      - Message 35: "Putting Testing in Perspective: Assessment as a Partner to Learning"
      - Message 36: "I Know What an 82 Means: Grades and Grading in the 21st Century"
      - Message 40: "Seven Steps Toward Being a Better Math Teacher: A Path of Lifelong Improvement"
   C. Choose 2 of the 3 remaining sessions (3, 4, 5) in Lenses on Learning – see the Facilitator Guide for project ideas:
      - Session 3: "What Makes for Meaningful Professional Development?"
        - Session 3, Activity 1: "Facilitating Discourse"
        - Session 3, Activity 2: "The Teachers in our Schools"
        - Session 3, Activity 3: "Learning Mathematics Together"
      - Session 4: "Critical Colleagueship"
        - Session 4, Activity 1: "Exploring Critical Colleagueship"
        - Session 4, Activity 2: "Alternative Images of Professional Development"
      - Session 5: "Providing Professional Development"
        - Session 5, Activity 1: "Professional Development in our Schools"
        - Session 5, Activity 2: "Vignettes of Individuals Moving in the Stream"
        - Session 5, Activity 3: "A System on the Move: Project IMPACT"

II. **Application of Information:**
   A. Synthesize and apply the information from your selection above into one of the following:
      1. A message for elementary math teachers about this information
      2. Three ideas for application in your classroom
      3. Determine a plan for professional development need and design
      4. How this information could be used to research elementary math assessment
      5. Sample curriculum project you would use with your students that clearly demonstrates the concepts in your readings

III. **Product Choice:**
   B. Create and connect one or two or more of the following Web 2.0 tools that demonstrates your synthesis of the information in your above assignment selection:
      1. Glogster
      2. Weebly
      3. Prezi
      4. Edmodo
      5. Blabberize
      6. Storybird
      7. Xtranormal
      8. Bubblus

If you decide to take on the challenge to do two or more tools, it is suggested that one of your Web 2.0 tools be from 1-4 because you can easily embed or link to a product from 5-8. For example, if you create a Glog, you can easily embed a video you created in Blabberize or Xtranormal. If you choose a single Web 2.0 tool, it will
be easier to present the synthesis of your information in tools 1-4. Of course, you are welcome to suggest another Web 2.0 tool in your email outlining your project.

What and when to submit:
1. Send an email to your instructors by April 25 describing your three selections (Content, Application, and Product) from above and a short description of what your project will contain.
2. **Final project Due Monday May 9 – Upload to BlackBoard.** Your project will probably be saved online, so you will paste the link to your project in the comment box under Assignments in BlackBoard. Your project will probably be saved online, so you will paste the link to your project in the comment box under Assignments in BlackBoard.

MTLA Scholar Project links:
The Scholars did such a great job with these project that we wanted to share them with the reader.

http://prezi.com/fwfm6x8f8e/edit/#0_1242138
http://ebm2285.edu.glogster.com/faster-isnt-smarter/
http://mscutright.weebly.com
http://lenseslearningelementaryteachers.weebly.com/
http://jamierector.weebly.com
http://mtlcontentproject.weebly.com
http://prezi.com/vinfws6_bfg/lenses-on-learning/
http://www.glogster.com/neesarichardson/neesa-s-partnering-glog/g-6mdu7c1hqv130926csq6a0?old_view=True
http://www.xtranormal.com/watch/12123611/faster-isnt-smarter
http://resbobcats.edu.glogster.com/prensky-presentation-1196
Date of Application: June 23, 2001
Name of MTLA Participant and School: Emily Mills, W. R. McNeill Elementary
Purpose of Mini-Grant (one sentence): The purpose of this mini-grant is to increase the rigor and relevance of math instruction and technology use within the elementary classroom.
Project Name: Interactive Math Classroom
Mini-Grant Request Budget Total: $1,954.86
   Total Project Budget (any supplemental funds that are added): $2,000
Dates covered by this budget (must be expended by February 1, 2013): August 2011- May 2012
School and Address of Participant/School:
Emily Mills       W.R. McNeill
459 Earlston St.  1800 Creason Dr.
Bowling Green, Ky Bowling Green, Ky
42104            42101

Personal Phone: 270-320-5756
School Phone: 270-746-2260
Fax: 270-746-2265
WKU Email: Emily.Brooks@topper.wku.edu
Personal Email: Emily.Mills@hitcents.com

Principal: Marsha Ingram
Principal Email: Marsha.Ingram@bgreen.kyschools.us
Detailed Mini-Grant Description:

I. Proposal Narrative (3 page limit)

Include references to Toyota PGP. Use the below outline for a maximum of 6 projects – 1 of which needs to be at HABG, and 1 presentation.

**Project: HEAT Rubric Refinement and Development**

Goal: To create revised HEAT rubrics that are teacher friendly for lesson planning and observation. The rubrics will score teachers’ lessons based on the use of technology, higher order thinking skills, student engagement, and authenticity.

Activity (short description): With my MTLA group, I will develop a technology rubric. This rubric will identify how to use technology aligned with Bloom’s Taxonomy, as well as serve as an observation tool. This project will consist of creating a detailed, easy to understand rubric and revising the rubric as we see the need.

Timeline: The MTLA group will meet several times in the Fall of 2011 with a rubric completed by December 2011.

Materials/Hardware/Expenses: Original HEAT Document

**Project: HEAT Video Observations**

Goal: Provide video examples of effective technology incorporated into mathematics according to the revised H.E.A.T. Framework.

Activity (short description): Teachers will be asked to submit video copies of their lessons that were designed using the HEAT framework. Segments of the lesson will be uploaded to a site and assessed using the HEAT observation rubric. The segments and accompanying assessments will provide instructors with examples of proficient implementation of HEAT.

Timeline: 2011-2012 School Year

Materials/Hardware/Expenses: iPod Touches, iPad 2, Revised HEAT Framework, Website

**Project: HEAT Training Module**

Goal: Develop a teacher friendly HEAT training module to train educators to implement and assess the HEAT framework in the classroom.

Activity (short description): The MTLA Group will create a HEAT training module to educate teachers on how to increase the HEAT levels in their classrooms.

Timeline: Spring 2012

Materials/Hardware/Expenses: Revised HEAT Framework, iPad 2
**Project: Interactive Numeracy Classroom**

Goal: Provide classroom resources to enhance math instruction specifically geared toward numeracy and number sense.

Activity (short description): I will implement Everyday Counts Calendar Math in my classroom on a daily basis to review and develop critical math concept and skills. Students will also be able to utilize iPod touches and the iPad 2 and the applications to practice and further develop their math skills.

Timeline: 2011-2012 School Year

Materials/Hardware/Expenses: Everyday Counts Calendar Math, Everyday Counts Partner Games, Everyday Counts Planning Guide, Everyday Counts Interactive White Board Upgrade, iPod Touches, iPad 2

**Project: Teaching the Tutors- Housing Authority**

Goal: MTLA scholars will share math resources, ideas and pedagogy with the housing authority tutors.

Activity (short description): We will use the Lenses on Learning and Noticing Numeracy Now Curriculum to enhance the mathematical knowledge of the Housing Authority tutors so that they will be better equipped to help students with math homework specifically focusing on algorithms and problem solving. Emphasis will be geared toward the process and understanding more so than just getting the correct answer.

Timeline: August 2011 (3hrs)

Materials/Hardware/Expenses: Noticing Numeracy Now, Lenses on Learning, Computer, Projector, Camera.

**Project: KySTE HEAT Presentation**

Goal: Share the revised HEAT rubric and observation tool with educators across the state.

Activity (short description): Present the revised HEAT Framework and train educators on how to raise the HEAT level in their classrooms.

Timeline: March 2011

Materials/Hardware/Expenses: Revised HEAT Framework, computer, instructional videos

II. Funding Request including Itemized Budget (2 page limit)
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<tr>
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*** If ordering Apple products from Apple also purchase the AppleCare Protection Plan for the iPad 2 and iPod Touches

III. Evaluation (1 page limit)

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<tr>
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<th>Data that Will be Collected</th>
<th>Methodology</th>
<th>Person(s) Responsible</th>
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<tr>
<td>To create revised HEAT rubrics that are teacher friendly for lesson planning and observation. The rubrics will score teachers’ lessons based on use of technology, higher order thinking skills, student engagement, and authenticity.</td>
<td>Teachers will be able to proficiently use the revised HEAT rubrics to plan, implement, and assess classroom instruction.</td>
<td>Teacher self assessments MTLA Scholar assessments Student work</td>
<td>MTLA group will work with WKU professors through fall 2011 to revise the HEAT Framework rubrics.</td>
<td>MTLA Group Dr. Tassell Dr. Maxwell Dr. Stobaugh</td>
</tr>
<tr>
<td>Provide video examples of effective technology incorporated into mathematics according to the revised HEAT Framework.</td>
<td>Teachers will be able to create and implement HEAT lessons scoring a proficient or</td>
<td>Teacher videos uploaded to the website.</td>
<td>MTLA group will recruit teachers from area schools to participate in HEAT Framework training and aid in</td>
<td>MTLA Group Teacher participants at area schools</td>
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<td>MTLA Group</td>
<td>Teacher evaluations</td>
<td>MTLA Group</td>
<td>MTLA Group</td>
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<tr>
<td>Develop a teacher friendly HEAT training module to train educators to implement and assess the HEAT framework in the classroom.</td>
<td>MTLA Group will develop and utilize a training module to educate teachers on the HEAT framework. Teacher participates will evaluate the effectiveness of the module.</td>
<td>MTLA Group will work with WKU professors during the 2011-2012 school year to create a HEAT training module.</td>
<td>MTLA Group Dr. Tassell Dr. Maxwell Dr. Stobaugh</td>
<td></td>
</tr>
<tr>
<td>MTLA Group will share math resources, ideas and pedagogy with the housing authority tutors.</td>
<td>House Authority Tutors will score an 80% or above on a post assessment.</td>
<td>Pre and Post Assessments</td>
<td>MTLA Group will train Housing Authority Tutors on Lenses on Learning and Noticing Numeracy Now. Tutors will take a pre and post assessment to show growth mathematical practice.</td>
<td>MTLA Group Housing Authority Tutors</td>
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<tr>
<td>Provide classroom resources to enhance math instruction specifically geared toward numeracy and number sense.</td>
<td>The will be able to demonstrate a proficient number sense through the use a digital math journal and teacher interviewing.</td>
<td>Digital Math Journals</td>
<td>I will use Everyday Counts Calendar Math and the iPod touches to teach the students in-depth number sense. The students’ progress will be documented in</td>
<td>Students</td>
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<tr>
<td>Share the revised HEAT rubric and observation tool with educators across the state.</td>
<td>MTLA group will present the HEAT framework at KySTE receiving positive feedback from participants.</td>
<td>Participant feedback from survey</td>
<td>MTLA Group will present the revised HEAT Framework and show examples of proficient HEAT videos and student work.</td>
<td>MTLA Group KySTE Participants</td>
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IV. Attachments
   a. MTLA Participant Vita

Emily Brooks Mills
Vita
Elementary Teacher (1st Grade)
W.R. McNeill Elementary
Emily.Mills@bgreen.kyschools.us
School 270-746-2260
Mobile 270-320-5767

Education
Western Kentucky University
   Summer ’09- Present Master’s in Elementary Education
   Fall ’03- Fall ’07 Bachelor’s in Elementary Education

Employment
W.R. McNeill Elementary, Bowling Green, Ky
   Fall ’08- Present Teacher: 1st Grade
   Bowling Green Independent School District
   Spring ’07 Substitute Teacher

Designations
Writing Cluster Leader, W.R. McNeill Elementary. (August, 2010-Present)

Faculty Development
Conference Attendance
March 2011: KySTE, Louisville, Ky

Professional Development
June 2011: School of Teacher Education Annual Summer Conference
June 2011: Common Core Standards, Curriculum Mapping-- In this training I created “I Can” statements and key vocabulary aligned with the new state math standards.
February 2011: Common Core Academic Vocabulary Workshop-- I learned how to effectively teach vocabulary in the classroom using Marzano’s six steps.
July 2010: The 7 Habits of Highly Effective Kids--The training helped me prepare to teach my students to become leaders and practice the 7 habits.
June 2009: Writing Fundamentals-- The training taught me how to implement the Writing Fundamentals Curriculum in the classroom.
b. Revised MTLA Professional Growth Plan

**MATH, TECHNOLOGY, AND LEADERSHIP PROFESSIONAL GROWTH PLAN**

Name Emily Mills  
Address 459 Earlston St.  
City/State/Zip Bowling Green, KY 42104  
Phone 270-320-5756  
Semester Fall 2010  
Email Emily.Brooks@wku.edu  
Standards Used AMTE and ISTE

1. **My Professional Strengths:**

**ELED 571:**  
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard III: Leadership Knowledge and Skills (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**Indicator:**  
Select from a repertoire of methods to communicate professionally about students, curriculum, instruction, and assessment to educational constituents—parents and other caregivers, school administrators, and school boards.

**Description:**  
I feel that I have grown significantly in this area over the past three years. I know that there is a lot of growth still left. I feel I have been able to learn the personalities of my parents, co-workers, and colleagues which enables me to communicate effectively with them. Learning the personalities and communication styles has allowed me to earn their respect which makes communicating about my students, curriculum, instruction, and assessment much easier.

**Indicator:**  
Use leadership skills to improve mathematics programs at the school and district levels, e.g., develop appropriate classroom- or school-level learning environments; build relationships with teachers, administrators and the community; develop evidence-based interventions for high and low-achieving students; collaborate to create a shared vision and develop an action plan for school improvement; partner with school-based professionals to improve each student’s achievement; mentor new and experienced teachers to better serve students.

**Description:**  
In the past year I have improved my math classroom learning environment. The environment is based on the students sharing their ideas and strategies in terms of math. The students share and discuss their problem solving strategies. I have developed relationships with other teacher to share our classroom successes for the betterment of our teaching. I feel that I serve as a mentor to other experienced teachers in the area of technology. I still have a lot of learning and evolving to do in this area.

International Society for Technology Education (ISTE) Teacher Standards: Standard 4: Promote and Model Digital Citizenship and Responsibility or Standard 5. Engage in Professional Growth and Leadership (Describe your professional strengths for any of the indicators for either standard. Give the indicator and your description.)

**Indicator:**
Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.

**Description:**
I feel I am a leader in this area due to my youth and introduction to technology at a young age. I experiment with new technology in the classroom and share with others the excellent resources I find. I have been to professional developments to learn new software and be the trainer and advocate for them at my school. This is a role I enjoy and am excited about.

**Indicator:**
Promote and model digital etiquette and responsible social interactions related to the use of technology and information.

**Description:**
I practice digital etiquette on a daily basis and with social interactions related to technology. It is extremely important to remain professional in this digital, social networking world. I check all my resources before using them in the classroom, edit emails, and am very selective about posting material on the web for others to view.

**ELED 572:**
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard I: Content Knowledge for Teaching Mathematics—Part b. and Standard II: Pedagogical Knowledge for Teaching Mathematics—Part a. and b. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

**Indicator:**
1A: Deep understanding of mathematics in grades K–8.

**Description:**
I feel that my understanding of mathematics is the strongest of any content area. I feel confident in my knowledge base when teaching math and enjoy it. While I would not feel comfortable teaching math above a 5th grade level, I do feel comfortable with 1st grade concepts and my ability to teaching them in depth due to my understanding.

**Indicator:**
B: Teaching.

**Description:**
Thanks to MTLA I feel that I am proficient in designing and constructing math lessons and tasks that include differentiation, multiple modes or representations, questioning, and most especially facilitate problem solving. With the extra emphasis I’ve put toward math this year it has given me the opportunity to reevaluate how I teach math to increase student learning and achievement. With this new teaching repertoire I feel more confident teaching math and taking chances.

International Society for Technology Education (ISTE) Teacher Standards: Standard 1: Facilitate and Inspire Student Learning and Creativity or Standard 3: Model Digital-Age Work and Learning (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**Indicator**
1A: Promote, support, and model creative and innovative thinking and inventiveness

**Description**
Through MTLA I have been given the opportunity to explore and promote innovative thinking and inventiveness within myself and my students. I have explored many Web 2.0 tools with my students and have let them explore these tools in the computer lab and have allowed the students use their creativity to guide their work. From this
exploration with my students I have been able to share with others teachers the success I’ve had and the benefits from using the web 2.0 tools. Not only is it something that I feel confident but it something that I love to do. I spend a lot of time exploring new ideas and tool that my students and I can use in the classroom.

**Indicator**

3A: Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations

**Description**

Through MTLA, my Master’s Program and marrying into a family software business I have proficient background in technology fluency that I am able to transfer to new technologies and situations. I also use technology on a daily basis in the classroom, for graduate work, and at home for pleasure. This allows me to maintain my knowledge and grow it on a daily basis. The constant practice and usages allows me to refine my skills and learn new ones.

**ELED 573:**

Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard II: Pedagogical Knowledge for Teaching Mathematics—Part c. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

**Indicator**

a. Learners and Learning
   - Utilize and build upon learners’ existing knowledge, skills, understandings, conceptions and misconceptions to advance learning.

**Description**

Before beginning a unit of study I assess the students formally or informally so I can get a good grasp of their prior knowledge. This allows me to plan a unit of study that will revolve around students learning and the growth of each student. This also allows me to challenge many of my students or cover material I might not have otherwise taught due to assuming they already had the knowledge. Understanding the students existing knowledge, skills, etc. is a strength because it guides my teaching and improves students success.

**Indicator**

b. Teaching
   - Model effective problem solving and mathematical practices—questioning, representing, communicating, conjecturing, making connections, reasoning and proving, self-monitoring and cultivate the development of such practices in learners.

**Description**

Due to MTLA I have been able to redefine how I teach problem solving in the classroom. I allow the students to have more freedoms with problems and use strategies that work for them. I also let the students share their strategies with their classmates to help the students see the problems and think in new ways. Since starting this change I have really seen my students grow and express their problem solving strategies in words which has been a struggle in the past. I am continually growing in this area and but have made a considerable growth recently with exploring problem solving more and incorporating into math daily.

**International Society for Technology Education (ISTE) Teacher Standards:** Standard 2. Design and Develop Digital-Age Learning Experiences and Assessments (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**Indicator**

c. customize and personalize learning activities to address students’ diverse learning styles, working strategies, and abilities using digital tools and resources
**Description**

MTLA has allowed me to use much more technology in my classroom and in a variety of ways. Allowing students to use hands on technology addresses each students’ diverse learning styles and working strategies. Technology gives students many more options than just paper and pencil. I have grown over the past year to allow my students the freedom to choose their assignments and projects to guide their learning toward their learning style.

**Indicator**

d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

**Description**

I currently use multiple formative and summative assessments aligned with content and technology standards. I frequently use clicker quizzes for formative assessments as well as varied technology projects for formative and summative assessments. I use these assessments to inform and guide my teaching and next steps. Using technology as a form of assessments aids in quick results and keeps the students engaged.

---

2. **My Areas for Professional Growth:**

**ELED 571:**

Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard III: Leadership Knowledge and Skills (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**Indicator:**

Evaluate educational structures and policies that affect students' equitable access to high quality mathematics instruction, and act professionally to assure that all students have appropriate opportunities to learn important mathematics.

**Description:**

Evaluating educational structures and an area in which I need significant growth. Unfortunately, many times this is something that gets pushed to the side due to time management. With the implementation of Senate Bill 1 in the 2011-2012 school year it is essential that I evaluate the next content standards and apply them to high quality math instruction. It also important to evaluate the national standards to make sure the students are given all the appropriate opportunities to learn.

**Indicator:**

Plan, develop, implement, and evaluate professional development programs at the school and district level and support teachers in systematically reflecting and learning from practice.

**Description:**

Planning, developing, implementing, and evaluating professional development programs is something that I have little to no experience with. In order to become a leader in my school I must be able to present, implement, and evaluate professional development for it to be effective in my school or district. This is an area where continual growth will be necessary.

International Society for Technology Education (ISTE) Teacher Standards: Standard 4: Promote and Model Digital Citizenship and Responsibility or Standard 5. Engage in Professional Growth and Leadership (Describe your professional strengths for any of
the indicators for either standard. Give the indicator and your description.)

Indicator:
Address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources.

Description:
This is an area that will require continual growth and education on the part of the teacher. It will require knowledge of new technology and staying up to date on learner centered strategies and digital tools. I want to be a life-long learner in this area.

Indicator:
Participate in local and global learning communities to explore creative applications of technology to improve student learning.

Descripotor:
Participating in local and global learning communities allows educators to share their successes and failures in the classroom. It is very beneficial to know what has been used in a classroom and is effective. I am not a member of very many learning communities and there are a plethora of groups to be a part of online, locally, and globally.

_ELED 572:_
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard I: Content Knowledge for Teaching Mathematics—Part b. and Standard II: Pedagogical Knowledge for Teaching Mathematics—Part a. and b. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

Indicator
2A: Learners and Learning

Description:
Using the students’ prior knowledge, teaching to diverse learners and creating a social context that engages learners in an area for continual and every changing growth. One of my weaknesses is creating learning experiences for my first graders that are authentic to their world. This is an area that needs immediate growth as it directly correlated to student learning and achievement.

Indicator
2C: Curriculum and Assessment.

Description:
Curriculum and assessment are areas that I feel I need continual growth. With the new state standards there are going to be some major curriculum changes in math and how we assess our students. This something that I am only on the surface of learning about and is something that I will need to learn much more about in the near future. I have detailed ideas of how to address this need in the next section.

International Society for Technology Education (ISTE) Teacher Standards: Standard 1: Facilitate and Inspire Student Learning and Creativity or Standard 3: Model Digital-Age Work and Learning (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

Indicator:
1C: Promote students reflection using collaborative tools to reveal and clarify students’ conceptual understanding and thinking, planning, and creative processes.

Description:
I think it would be beneficial for the students in my classroom to do more self reflection and it would help me understand my students’ thinking and assess their learning. I do not facilitate student reflection as often as I should to clarify students’
conceptual understanding. Student reflection aids not only the teachers but the students by having them reflect on what they have learned and where their understanding is. It is great to guide daily instruction and differentiation in the classroom. Using collaborative reflection is something that I have never done to facilitate student reflection so it is a definite area of needs.

**Indicator**

3C: Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.

**Description:**
Currently, the main mode of weekly communication I use with my students’ parents is sending home a newsletter each Monday. While communication is a vital part of being an effective teacher I know there are more efficient and effective ways of sharing information that I am not using. This is one of my definite areas of growth. Communication is as equally important with the parents as it is the students and our peers. There is a need for a common digital place where teachers within the district can communicate and similarly a program that makes communication effective with students and parents.

**ELED 573:**
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard II: Pedagogical Knowledge for Teaching Mathematics—Part c. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

**Indicator**

e. Curriculum and Assessment
- Uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess students’ mathematical knowledge.

**Description**
Currently, I assess the students formatively with questioning and clicker quizzes and summatively with an end of the chapter paper pencil test. Assessment is a vital part of student learning that helps the teacher understand the exact needs of each student. I need growth in the area of using multiple modes of assessment specifically dealing with listening to and understanding the ways students think about math.

**Indicator**

a. Curriculum and Assessment
- Use the formative assessment cycle (administer a formative assessment task, analyze student responses to the task, and design and reteach lessons based on this analysis) and be able to find or create appropriate resources for this purpose.

**Description**
Right now my approach to formative assessment is very informal and haphazard. Typically my formative assessments occur when I feel that the students may not be grasping what is being taught and I can see exactly where their misconceptions come in. I need to grow in this area by consistently and methodically formatively assessing my students in order to analyze the data to reteach and create lessons.

**International Society for Technology Education (ISTE) Teacher Standards:** Standard 2. Design and Develop Digital-Age Learning Experiences and Assessments (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**Indicator**

a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
Description
Designing and adapting relevant learning experiences that incorporate digital tools and resources is an area in which I need significant growth. Incorporating technology in a variety of ways is very important to students’ success in the future. I would like to learn to incorporate technology on a regular basis that effectively connects content and teaching and learning.

Indicator
b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress

Descriptor
Currently my classroom, and school for that matter, is not very technology friendly. I have a few student computers in my room and access to one computer lab for the entire school, so access to technology is not readily available to my students. In order to provide a technology enriched environment I need to grow in how I manage the technology available to me and utilize my resources to gather more technology.
## PLAN FOR PROFESSIONAL GROWTH

### HEAT Rubric Project

*To create revised HEAT rubrics that are teacher friendly for lesson planning and observation. The rubrics will score teachers’ lessons based on use of technology, higher order thinking skills, student engagement, and authenticity.*

*Provide video examples of effective technology incorporated into mathematics according to the revised HEAT Framework.*

*Develop a teacher friendly HEAT training module to train educators to implement and assess the HEAT framework in the classroom.*

### Professional Society: International Society for Technology Education

<table>
<thead>
<tr>
<th>Standard: Standard 5: Engage in Professional Growth and Leadership</th>
<th>Critical Performance Indicator: Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building and developing the leadership and technology skills of others.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2B Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Actions - What I will do and resources I will need:

1) The MTLA group will revise the HEAT framework rubric to make it teacher friendly. We will also create a lesson observation tool to accompany the rubric.

2) The MTLA team members will work collaboratively to create broad objectives for enhancing teachers’ technology related knowledge, implementation abilities, and utilizing the revised HEAT module in the area of mathematics.

3) Each MTLA team member will serve as chairperson and create a HEAT school technology team consisting of at least four members (three math instructors and one other school professional) to focus on the implementation of HEAT to improve math instruction. Each team will also seek to involve an administrator and/or the district’s technology integration specialist.

4) Once the team is established, the team broad objectives will be outlined with the school team members to provide focus of the task.

5) Prior to receiving HEAT training, each school team member will select a math lesson they feel includes higher order thinking, student engagement, provides an authentic task, and effectively incorporates technology as an integral part of the task to be videotaped as a pre-assessment of their HEAT level.

6) The MTLA group will develop a training module that will be used to educate teachers on using HEAT within the classroom setting.

7) The school team will receive training in the implementation of the HEAT model for instructional technology infusion by the MTLA team members. The team will then share and utilize the H.E.A.T. rubric to evaluate teachers’ technology integration effectiveness in the classroom based on their pre-assessment video.

8) The school team will work with each other at least once quarterly to plan, design, implement, and evaluate a lesson involving different technology resources utilizing the HEAT module. Once a quarter, the team will present a videoed HEAT lesson to the entire faculty that involves different technology resources and/or tools and how it can be utilized in the classroom. Each faculty member will also be given a HEAT observational rubric to assess the HEAT levels depicted in the video which will then be discussed so that they improve their understanding of the various HEAT levels.

9) The team will maintain share portal and/or website that include videotaped HEAT lessons and completed rubrics that identify the HEAT level of each component. The team will also include on its
website a blog that will allow for the open discussion of HEAT lessons, technology being used in the classrooms, and how each is impacting student learning.

**Impact - Evidence in Portfolio of progress in implementing the Actions will be:**

1. MTLA team’s broad objectives and rubric.
2. Signed letters from the HEAT school technology team members stating their accepted involvement with the team and evaluating the effectiveness of the implementation of the HEAT module in their classroom.
3. Documentation of members’ present for the outlining of broad objectives for the HEAT school technology team.
4. Videotaped HEAT pre-assessment math lessons
5. Documentation of members’ participation in H.E.A.T. Foundations training, a copy of each participants completed HEAT rubric based on a training video, and completed evaluation forms of the training.
6. Collaboratively created HEAT lessons by school team, and assessment of lesson using HEAT completed observational rubric from teachers.
7. Copy of faculty meeting agenda signed by present faculty members.
8. Link to MTLA team’s technology website.

**Housing Authority Teach the Tutors Project**

*MTLA Group will share math resources, ideas and pedagogy with the housing authority tutors.*

<table>
<thead>
<tr>
<th>Professional Society: Association of Mathematics Teacher Educators (AMTE)</th>
<th>Standard: Standard 1: Content Knowledge for teaching mathematics EMS professionals must know and understand deeply the mathematics of elementary school as well as how mathematics concepts and skills develop through middle school. This knowledge includes specialized knowledge that teachers need in order to understand and support student learning of elementary mathematics.</th>
<th>Critical Performance Indicator: B Specialized mathematics knowledge for teaching. EMS professionals must have mathematical knowledge that enables them to; recognize, evaluate, and respond to multiple, often non-standard solutions to problems.</th>
</tr>
</thead>
</table>

**Actions - What I will do and resources I will need:**

1. MTLA group will meet to develop bank of math resources, ideas and pedagogy to improve the teacher leaders of the Housing Authority of Bowling Green understanding of math concepts and process.

2. Tutors for the Housing Authority will take a pre-assessment of their mathematical beliefs and practices.

3. MTLA group will meet with the teacher leaders at the Housing Authority to present ideas from Lenses on Learning and Noticing Numeracy Now.

4. Tutors will take a post assessment of their mathematical beliefs and practices.

**Impact - Evidence in Portfolio of progress in implementing the Actions will be:**

1. Pre and Post Assessments

2. Instructional materials

3. Photographs/video of presentation
KySTE Presentation

* Share the revised HEAT rubric and observation tool with educators across the state.

<table>
<thead>
<tr>
<th>Professional Society:</th>
<th>Standard:</th>
<th>Critical Performance Indicator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Standard 5: Engage in Professional Growth and Leadership</td>
<td>Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building and developing the leadership and technology skills of others.</td>
</tr>
</tbody>
</table>

**Actions** - *What I will do and resources I will need:*

1. MTLA Group will meet to develop a presentation that will be delivered at the KySTE Conference.

2. MTLA Group will complete a proposal and submit it to the KySTE approval committee.

3. MTLA Group will present March 7-9 in Louisville, KY.

4. Conference participants will provide feedback on the presentation given by the MTLA group.

**Impact** - *Evidence in Portfolio of progress in implementing the Actions will be:*

1. Participants at the KySTE conference will be asked to complete a survey to provide the MTLA Group with feedback on the presentation.

---

INDIVIDUAL PROJECT

* Interactive Math Classroom

<table>
<thead>
<tr>
<th>Professional Society:</th>
<th>Standard:</th>
<th>Critical Performance Indicator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Association of Mathematics Teacher Educators (AMTE)</td>
<td>II Pedagogical Knowledge for Teaching Mathematics</td>
<td>B Teaching. EMS professionals must know and be able to: Use various instructional applications of technology, judiciously, in ways that are mathematically and pedagogically grounded. Develop skillful and flexible use of different instructional formats—whole group, small group, partner, and individual—in support of learning goals.</td>
</tr>
</tbody>
</table>

**Actions** - *What I will do and resources I will need:*

1. I will implement Everyday Counts Calendar Math in everyday instruction. This will allow me to review basic math skills on a daily basis and build on them going beyond just the calendar.

2. My students will use iPod Touches to create their own digital math journals. In the journals the students will reflect on skills they have learned and demonstrate problem solving strategies. These digital journals will be assessed and used to show growth in individual students.

3. The students will record at least one math journal entry a month. Some entries may just include student reflections while others will be the students showing me how to solve a problem.

4. My students will also use the iPod touches and iPad to interactively practice and enhance their math skills.

**Impact** - *Evidence in Portfolio of progress in implementing the Actions will be:*

1. Student work from Everyday Counts Calendar Math
2. Teacher reflection of Calendar Math and checklist of students’ progress
3. Samples of students’ digital journals
4. Samples and explanations of students’ activities using the iPods and iPad and their effectiveness
c. Letter of Support for Mini-Grant from Principal

June 22, 2011

To Whom It May Concern;
I am writing this letter in support of the grant that Emily Mills is pursuing. The purpose of this mini-grant is to increase the rigor and relevance of math instruction and technology used within the elementary classroom. She has described in her application the goals and activities for the HEAT Rubric Refinement and Development, HEAT Video Observations, HEAT Training Module, Interactive Numeracy Classroom, Teaching the Tutor-Housing Authority and KySTE HEAT Presentation. Her classroom will be transformed into an interactive math classroom. I am excited of the possibility of Mrs. Mills being awarded this grant and then being able to share her knowledge with her colleagues. Please consider Mrs. Mills’ application for the Interactive Math Classroom Grant.

Sincerely,
Marsha Ingram
Principal
W. R. McNeill
270-746-2260
Problem Solving
How to Choose a Field Trip

Melissa Zimmer
Student Name: Nyles Cockrel and Presleigh Jaggers (writers)
    Amber Tucker, Courtney Warren, Ryleigh Skaggs, Joey Paroda, and Sam Carini (field researchers)
    Maddie Thomas and Garrett Ashley (student panel)
    Noah Nash and Zack Carini (tech team)

Grade level: 5
Music Source: iLife Sound Effects
Problem: How to Choose a Field Trip

Bloom’s Higher Levels: Definitions and Verbs

<table>
<thead>
<tr>
<th>(C) Creating</th>
<th>Design, Construct, Produce an original product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Build, Combine, Compile, Compose, Construct, Create, Design, Develop, Formulate, Imagine, Invent, Make Up, Originate, Plan, Propose, Suppose, Modify, Change, Original, Improve, Adapt, Theorize, Elaborate, Improve, Change, Produce, Assemble, Prepare, Prescribe</td>
</tr>
<tr>
<td>(E) Evaluating</td>
<td>Compare and discriminate between ideas, Assess value of theories, presentations, Make choices based on reasoned argument, Verify value of evidence, Recognize subjectivity</td>
</tr>
<tr>
<td></td>
<td>Award, Choose, Conclude, Criticize, Decide, Defend, Dispute, Evaluate, Judge, Justify, Measure, Compare, Mark, Rate, Recommend, Rule On, Select, Agree, Interpret, Explain, Appraise, Prioritize, Give opinion, Support, Justify importance, Design criteria, Prove, Disprove, Assess, Influence, Perceive, Value, Estimate, Influence, Deduct, Recommend, Critique, Justify, Appraise, Test, Revise, Rank, Score, Critique, Grade, Reflect, decide, grade, test, convince, discriminate, Detect</td>
</tr>
<tr>
<td>(A) Analyzing</td>
<td>Organization of parts, Recognition of hidden meanings, Identification of components that are not obvious, Infer causes, Predict consequences</td>
</tr>
<tr>
<td></td>
<td>Analyze, Categorize, Classify, Compare, Contrast, Discover, Dissect, Divide, Examine, Inspect, Simplify, Survey, Take Part In, Test For, Distinguish, List, Distinction, Assume, Conclude, Separate, Distinguish, Inventory, Experiment, Question, Contract, Diagram, Infer, Separate, Differentiate, Inspect, Summarize, order, connect, Extrapolate, Extend</td>
</tr>
</tbody>
</table>

Place picture on the left and narration of the right:
Be sure to bold the verbs used for higher-level thinking and Identify the Bloom’s level with C, E, or A from above.
Problem Solving
How to choose a Field Trip

First, we formulated (C) key questions
1. How much money can we use?
2. Who has medical needs and how does that affect where we can go?
3. What kind of learning is fun for students?
4. How do you decide if a field trip is appropriate?
5. How many chaperones per student do we need?
6. How much are parents willing to pay?
7. How far will they let us go?
(What about link to curriculum, i.e., what they are studying in class?)

Second, we compiled (C) a list of primary sources.
1. Mrs. Tina can answer questions about cost.
2. Mrs. Debbie or the Nurse can answer questions about medical needs.
3. Students can answer questions about what is fun to learn.
4. Mrs. Evans can answer questions about a field trip that is appropriate.
5. Mrs. Tina could also answer question about how many chaperones we should have per student.
6. Mrs. McCubbins can answer questions about how much parents are willing to pay, and how far the parents will let us go.

Third, we surveyed (A) our sources.

First, we surveyed (A) Mrs. Evans on how to choose a field trip that is appropriate. Mrs. Evans said, “It needs to match the curriculum on what they’re learning about.” Then she said, “It needs to be safe and not like an amusement park because you can get injured,” and no out of state field trips.
Second, we surveyed Mrs. Debbie about students who have medical needs. She told us, “If you go on a field trip in town somebody from our school who is medically trained must go the field trip. If you go on a field trip out of state each state has different rules about who can give medicine.”

Third, we surveyed Mrs. Tina. We asked her, “How much money can we spend on our field trip?” She said, “Parents pay $1.25 for each mile, so, if we travel 15 miles, our parents would pay $18.75, also, we would pay the bus driver $72.00, also including admission for the place we’re going to. The next question we asked was, “How many chaperones do we need?” She answered, “It depends on age, if their older, they’ll have less chaperones and if their younger, they’ll have more chaperones.”

Fourth, we surveyed Mrs. McCubbins about how much she would be willing to pay. Then we asked her if she would let her son go on the field trip. She told us that she would pay around $10.00, and she would let her son go on the field trip if it was in Bowling Green.

Last, we surveyed the students to see what kind of learning is fun for students. They said, “Getting educated and learning about science while having fun is a great way to learn and have fun.”

4. Prioritize Criteria
Our criteria are medical needs, safety, money spent, parent expectations, learning, and fun. We felt that medical needs were most important because, if a student has a serious allergy attack, while on field trip, they could die or get seriously hurt. The next important criterion is safety, because we want all of our students to be safe and healthy. Then, we thought money was the next criteria because parents might get angry if they have to pay too much and we don’t want to have a lot of money. Fourth, is parent expectations, because we want to make sure that parents are comfortable to let their kids go on field trips. Fifth, is learning, because we would like to make sure that our field trips are educational. Finally, we all agreed that our last criterion is fun, because we want to make sure that our students have fun field trips.
5. **Evaluating (E) Options**

We could go to Covington park. It will meet our medical needs but it is not safe. So we could not go to Covington park. Our second choice is the Skate Box. It meets everyone’s medical needs, but it is not safe. Our third choice is BRIMS Science Museum. It will meet medical needs, safety expectations, it will meet parents’ expectations, plus kids will have fun while still learning. It will meet the cost of $4.00 per person.

6. **List Further Questions (C)**

Now that we have evaluated (E) our options, further questions will be, “Are there any shows going on in the field trip?” “What days and times are available?” And, “How long can we stay?”

Field Researchers
- Ryleigh Skaggs
- Sam Carini
- Joey Paroda
- Courtney Warren
- Amber Tucker

Writers
- Presleigh Jaggers
- Nyles Cockrel

Student Panel
- Maddie Thomas
- Garrett Ashley

Tech Team
- Zach Carini
- Noah Nash
Appendix B: Communication with Toyota MTLA participants via BlackBoard

TOYOTA  Math and Technology Leadership Academy

Top of page

Announcements

Actions for Content Page

Content

Digital Story Submission  I could not change the Digital Story assignment so that you could upload more than once. However, Digital Story is listed a second time so if you need to upload again, you can use the second listing.

Posted by: Margaret Maxwell
Posted on: Tue, Dec 7, 2010

Toyota MTLA, Tassell & Maxwell, ELED 571 updates  Hi! We have some updates to the ELED 571 course. 1. The syllabus has been updated to reflect some changes in deadlines. We omitted the Multi-media assignment from the course. The points have been adjusted to reflect this change. 2. The rubric for the Technology Problem Solving Task with Animoto or Prezi is now posted -- we have also extended the deadline for this to be turned in on Nov. 14. This is in the Assignment folder labeled "PS Task" where you will upload your assignment. 3. The Leadership Strand has a clarification/modification of standards -- be sure to look at both the Leadership document and the Syllabus. 4. Reminder -- the Lenses on Learning Discussion Board and Blog Journal have been streamlined -- be sure to use the updated Lenses on Learning Document when responding to these. 5. Nov. 15 Seminar will be held at Rockfield Elementary School, 5-8 p.m. During that evening we will be working on a Lenses on Learning activity, learning about Digital Storytelling, DISC Leadership, and the Math and Technology Leadership Growth Plan. We are very excited about your progress in the course -- keep up the great work! Be sure to also monitor your time per our suggestions at the last seminar. See you November 15 at Rockfield... Dr. Tassell & Dr. Maxwell

Posted by: Janet Tassell
Posted on: Thu, Nov 4, 2010

ELED 571, Tassell, Lenses on Learning Modification  Hello! Dr. Maxwell and I have been looking at ways to be more succinct in our Discussion Boards and Blog Journals. Please note that we have made a few changes for the Lenses on Learning assignments. When you go to answer the assignments beginning the Nov. 1 week, a few questions have been eliminated or changed on both the Discussion Board and Blog Journal. Thanks for your patience with us in developing this course and refining it to best meet your needs. Dr. Tassell

Posted by: Janet Tassell
Posted on:

ELED 571, Tassell, Waiting for Superman Movie Outing??  HI! Abby Watkins suggested that we take a class field trip to go see "Waiting for Superman" in Nashville on Monday, Nov. 1, 7:30 p.m. start time. (Abby thought this would be a great night due to election day on Tuesday, Nov. 2.) I would personally really love to go. Any other takers? THIS IS NOT REQUIRED -- JUST FOR FUN AND GREAT CONVERSATION! We would probably need to leave by 5:30 p.m. to get there and avoid traffic. Maybe we should meet by 5:15 p.m.? How about we meet at Cracker Barrel on I65 and leave from there? Anyone interested in going, please email me by Monday at 3:30 p.m. We will then know who to watch for at Cracker Barrel. Have a Spooooky Weekend! Dr. Tassell

Posted by: Janet Tassell
Posted on: Fri, Oct 29, 2010
New Information Posted
Several DISC files have been posted for your information under Course Documents including the PowerPoint from the Oct. 25 seminar.

The sample Prezi and Animoto task file has been posted under Course Documents as well as links to Terri Stice's sample products. Posted by: Margaret Maxwell

Toyota MTLA, Tassell & Maxwell, Surveys
Hi! Just a reminder: If you have not yet faxed your set of surveys for Math Efficacy, for you, your principal and colleague, please bring these to the Seminar. If you have not yet completed the DISC Leadership survey, please do so by the end of the day Friday. Please bring 5 copies of the charts: "Style Insights Graphs", "The Success Insights Wheel", plus one for yourself, to the seminar. Bring two full copies of the report -- one for you and one to turn in to us. If you have not yet done so, please have your principal and colleague complete the LoTi Digital Age Survey that is within the HEAT module and the DISC Leadership survey. The name for principal and colleague will be the code that has been assigned and used for each of the surveys -- this code is the school code, first initial, last initial, day, then month of birth. On the results page for the LoTi survey, have your principal and colleague click on the print icon in the top right corner and print the results. Please collect these and give them to us at the Oct. or Nov. seminar. Let us know if you have any questions about this. Dr. Tassell and Dr. Maxwell

Posted by: Janet Tassell
Posted on: Thu, Oct 21, 2010

Toyota MTLA, Maxwell & Tassell, October Seminar
Hi all! We are excited to have the opportunity to meet with you on Monday, Oct. 25, 5-8 p.m. at Natcher Elementary School. For this evening, we will be discussing the following: ELED 571 Update: Briefly touch base about the course, the readings, assignments, and clarifications. DISC Leadership with Jerry Hatcher: Learn about your and others' leadership style and ponder how this applies to you as a leader in mathematics instruction. Technology with Terri Stice: Learn about some of the latest and effective tools available to you online! Team: Learn who you will be in a group with for the initiative. Have an opportunity to meet briefly as a group.

Posted by: Janet Tassell
Posted on: Thu, Oct 21, 2010

HEAT Answer Key
I have posted an answer key to the HEAT Practice Videos to help you prepare your HEAT ratings for the Assessment Videos that are due tomorrow.

Posted by: Margaret Maxwell
Posted on: Sat, Oct 16, 2010

Dr. Maxwell
Posted by: Margaret Maxwell
Posted on:

ELED 571, Maxwell and Tassell, Instructors need your WordPress Blog Journal URL
We need for each of you to email the link (URL address) of your WordPress Blog Journal so that we can review your journal posts as soon as you can. Thanks. Also, we just posted the latest version of the Lenses on Learning Strand file. So be sure to download and use that version of the assignments for Lenses on Learning. The only difference is table formatting, no changes in assignments. We are very excited about your progress in the course and your enthusiasm! Keep it up! Dr. Maxwell

Dr. Tassell
Posted by: Margaret Maxwell
Posted on: Thu, Oct 14, 2010

Water Cooler Forum
We have added an open discussion forum for students called the Water Cooler. Students may discuss, ask and answer anything about the course or MTLA.

Posted by: Margaret Maxwell
Posted on: Mon, Oct 11, 2010

ELED 571, Maxwell, New Response Code for DISC Survey
Please use the following Response Link (code) when you take the DISC survey: 108419rkc (corrected 10/7/10 at 10:55 p.m.)

If you have taken the survey already, I apologize for asking you to do this, but please take it again and try to answer with the same responses you used before. They set up a separate account for us AFTER we started this class. We will be able to
Welcome to ELED 571!

Hi Toyota MTLA Participants! The ELED 571 course begins tomorrow, Monday, Oct. 4, online in BlackBoard (http://ecourses.wku.edu). Here is an overview of our course work. All three courses will have three strands: 1. Math 2. Technology 3. Content a. ELED 571 – Leadership b. ELED 572 – Leadership c. ELED 573 - Assessment

Under Course Documents in our ELED 571 BlackBoard site, you will find the course syllabus, the three strand files, and MTL PGP:

• Syllabus – The syllabus gives the overview of the course, objectives, calendar, grading system, and more. **Be sure to print and keep a copy of the syllabus, especially the calendar, with you when working on this course.**

• Math Strand – Lenses on Learning—this strand uses content as a lens to learn about how to work with teachers to grow in understanding of how to lead in mathematics. There will be several discussion boards (in BlackBoard) and blog journals (in your Word Press blogs) posts.

• Technology Strand – In this strand we will discuss (in Google Groups) the Prensky and Gardner books throughout the three courses. In ELED 571 you will complete two modules, a Prezzi project, a digital story, and a Web 2.0 project. Details about these projects will be posted on BlackBoard.

• Leadership Strand – You will take the DISC leadership survey, participate in discussions in seminars and online, and learn to use results to communicate with your team, your students, and your school.

• Leadership PGP (Professional Growth Plan) – You will develop a plan describing your strengths and growth plan for math and technology leadership.

Overview of the Math, Technology, and Leadership (MTL) Professional Portfolio: Throughout the three years of the MTLA you will develop a professional portfolio. You will begin this portfolio in the three courses during the first year of MTLA by developing a Professional Growth Plan (PGP) for Leadership (ELED 571), Math (ELED 572), and Technology (ELED 573). In the second and third years of MTLA you will develop projects (which will be evidences) in your portfolio to demonstrate that you have accomplished the goals that you set in your PGP strands. Your final portfolio will be submitted in the spring of the third year of MTLA. Don’t worry, we will discuss your PGP and portfolio much more in the seminars and during the classes. We look forward to working with you this semester. Please do not hesitate to contact us about this course or anything associated with MTLA. Be sure to address all emails to both instructors and use the following email subject format: ELED 571, YourLastName, Topic of Email Enjoy this beautiful weekend! Dr. Marge Maxwell Dr. Janet Tassell
What is the Math and Technology Leadership Academy?

The Math and Technology Leadership Academy (MTLA) is a professional development initiative for elementary math teachers of grades 3-5 in the Bowling Green Independent Schools and Warren County Schools.

MTLA is designed to improve student and teacher dispositions and beliefs, increase student learning, and increase family involvement in math and technology.

The 3-year grant award encompasses 18 teachers—one chosen from each of the schools, taking three courses for nine credit hours, all expenses paid, with evening, weekend, or online seminars sprinkled throughout the duration of MTLA. The coursework is focused on a comprehensive math and technology approach that will improve teachers’ knowledge and instructional practices in math, technology, diversity, leadership, and assessment.

The instructional modules that participants design throughout the coursework will be piloted and implemented at the Housing Authority of Bowling Green as well as at the participant’s school.

In the second and third year of MTLA, participants will lead other teachers in professional development and implementation of the instructional modules in their schools.

Mini-Grants will be available for administering and leading a math and technology initiative in your school.

Faculty members from Western Kentucky University serve as directors and instructional leaders for MTLA.

How will teachers benefit?

• A $2000 stipend per participant upon completion of the grant award requirements
• Nine hours of graduate credit upon successful completion of the course in spring 2011
• Strengthened math and technology knowledge and instructional practices in classroom settings
• Strengthened understanding and skill sets in leadership, assessment, and diversity to help implement change in the school culture
• An opportunity to work with the Housing Authority of Bowling Green and children to implement products designed in the coursework
• Collegial support through continued networking
• Access to math and technology resources, databases, and listservs

MTLA Core Concepts

• Theory and Research
• Equity and Diversity
• Providing assistance to struggling learners
• Comprehension strategies
• Questioning Strategies
• Problem Solving in Mathematics
• Technology Integration
• Leadership training
• Reading and writing connections
• Assessment to inform instruction
• Design and management of instruction
• Family Involvement
• Common Core Standards of Mathematics
• National Technology Standards
Who is eligible to apply?

MTLA is a highly selective program that seeks qualified, dedicated teachers of grades 3-5 in Bowling Green Independent City Schools and Warren County Schools. Up to 18 teachers will be selected, one from each school based on the following criteria:

- Commitment to increasing student achievement in math and technology
- Principal’s support of the MTLA professional development initiative
- Willingness to accept leadership roles in the school or district
- Minimum of one year of teaching experience

How do I apply?

Applications and additional information will be available from your principal, Dr. Janet Tassell (janet.tassell@wku.edu), or Dr. Marge Maxwell (marge.maxwell@wku.edu).

Obtaining the recommendation of your principal is a part of the application process.

Calendar of Events:

April/May 2010: Information to Administrators and Invitations to Teachers
May 21, 2010: Application Deadline
June 8 and/or June 15: Scheduled 15-minute Interview of Applicants
August 2010: Announcement of Applicants accepted for MTLA
October 2010: Course 1 – Leadership, Math and Technology
Spring 2011: Course 2 – Math and Technology Methods for Diverse Learners
Summer 2011: Course 3 – Math and Technology Assessments, Interventions, and Success
Applications Due May 21, 2010

To complete the application:

Each applicant will write a personal statement (one – three pages) that includes the following:

- Why you want to participate in MTLA
- Your professional development/graduate experiences related to math and technology over the past three years
- A brief statement about professional books you have recently read
- How you involve the families of your students in math and technology
- Your leadership qualities and how you have asserted these in your school or ideas you have
- Your knowledge of how to incorporate appropriate techniques with diversity in your classroom and school
- Your knowledge of how to appropriately assess students, interpret results, and inform instruction
- Any other useful information that would qualify you as a candidate for MTLA

Additional information:

- Ask your principal to complete the enclosed “Principal’s Recommendation for MTLA 2010-2013”
- If your school’s Comprehensive School Improvement Plan addresses math and technology, please include a copy of these specific pages with your application.

After May 21, the MTLA Directors will contact you to set up an interview time. When all interviews are completed, directors will notify applicants relative to the outcome of their applications. Thank you for your interest in the Math and Technology Leadership Academy. We look forward to receiving your application.

I agree to actively participate in the Math and Technology Leadership Academy and to fulfill the expectations of the project as described in the MTLA handout. This agreement includes a commitment to attend all sessions of the courses and seminars.

Signature: ____________________________ Date: __________

Co-Directors of the MTLA:

Dr. Janet Lynne Tassell – Mathematics Education  Dr. Marge Maxwell – Technology Education
Janet.tassell@wku.edu  Marge.maxwell@wku.edu
270-745-5306  270-745-2435
**Application for the 2010 MTLA Academy**

(One application should be completed for each individual applicant.)

Name ______________________________________________________

Grade Level(s) ________________________ Years of Teaching Experience: _____________________

Home Address: ________________________________________________

Home Phone: _________________________ Alternate Number: __________________________

E-mail Address (school): ________________________________________

E-mail Address (home): _________________________________________

School: _______________________________________________________

School Address: ______________________________________________________________________

School Telephone: _________________________ FAX: _________________________________

Name of Principal: _________________________________________

List any grants related to math or technology that you or your school has been awarded or involved in during the past 3 years:

<table>
<thead>
<tr>
<th>Name of Grant/Training/Program</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

Return the completed application, personal statement, principal’s recommendation, and copy of the Comprehensive School Improvement Plan pages (if applicable) to the MTLA Director. Applications are due by May 21, 2010.

**Mail to:**

Janet Tassell

Western Kentucky University

1906 College Heights Blvd. #61030

Bowling Green, KY 42101

**OR**

Email to:

Janet.tassell@wku.edu
Principal’s Recommendation for the 2010 Math and Technology Leadership Academy

Cover Page

Name of Applicant: ____________________________

The Math and Technology Leadership Academy is a highly selective program. A total of 18 teachers will be selected to participate in MTLA. Applicants should be dedicated teachers who are committed to improving student achievement in math and technology. The MTLA Directors will contact you with the name of the teacher selected for your school. Please attach a letter of recommendation to this cover page that includes the following:

- Summary of your knowledge of the applicant’s commitment and expertise in teaching and specifically, the teaching of math and technology.
- Provide examples of how this applicant has potential as an instructional leader who works well as an active member of the learning community.
- Summary of other qualities or experience with: assessment, diversity, intervention, family involvement, etc.

Statement of Assurance:

I will honor the MTLA teacher’s commitment to participate in this grant.

Principal’s Signature: ______________________________________________

School: _____________________________ Date: ____________________
Appendix D: ELED 571 Leadership, Math and Technology Course Syllabus

ELED 571 Leadership, Math and Technology Education
Fall 2010 Syllabus

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Office</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Janet Tassell</td>
<td>Tate Page Hall – 314</td>
<td>Off.: 270-745-5306</td>
<td><a href="mailto:Janet.tassell@wku.edu">Janet.tassell@wku.edu</a></td>
</tr>
<tr>
<td></td>
<td>Office Hours:</td>
<td>Fax: 270-745-6322</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MW 9:00-10:00 a.m.; 12:45-2:45 p.m.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F 8:00 a.m.-12:00 p.m. – online</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Marge Maxwell</td>
<td>Tate Page Hall – 365</td>
<td>Off.: 270-745-2435</td>
<td><a href="mailto:marge.maxwell@wku.edu">marge.maxwell@wku.edu</a></td>
</tr>
<tr>
<td></td>
<td>Office Hours: 9:00am-3:00pm T, Th</td>
<td>Fax: 270-745-6435</td>
<td></td>
</tr>
</tbody>
</table>

Address: Western Kentucky University
1906 College Heights Blvd. #61030
Bowling Green, KY 42101-1030

Prerequisite: Participant in Toyota MTLA

Primary Course Website: http://ecourses.wku.edu

Required Texts:

Required Special Instructional Materials Needed:
Required Hardware, Software, and File Formats:

Hardware:
• PC/Windows-based computer with Internet Access
• Web camera and microphone

Software:
• Microsoft Office Pro 2007 for Windows (Word, Excel, Access, PowerPoint), web browser

File Format:
• You must save MS Word files in the 1997-2003 format. In other words, save Word files as .doc (not .docx or .rtf).

Media: USB Drive (flash drive) highly recommended. Since many students work on more than one computer, a flash drive makes it more convenient to transport files you are working on.

Course Description:
This course focuses on increasing elementary grades teachers’ knowledge of mathematics and pedagogy, leadership development, current research on mathematics education, and advances in technology.

Course Objectives:
1. Graduate students will maintain an online journal and participate in discussion forums reflecting thought-provoking, insightful comments on various topics during the course scoring 3 or higher on the rubric.
2. Graduate students will critique and offer insightful interpretations in a group book study scoring 3 or higher on the rubric.
3. Graduate students will create a multimedia project and present the project at a course seminar scoring 3 or higher on the rubric.
4. Graduate students will create two original technology products given appropriate software and tools scoring 3 or higher on the rubric.
5. Graduate students will create the Leadership strand of their Professional Growth Plan scoring 3 or higher on the rubric.

Instructional Methods:
Demonstrations, discussions, reading assignments, written assignments, technology demonstrations, use of computer software and productivity tools, tutorials, informational videos, field experience
Course Topics:
Elementary Math topics: Today's Mathematics, The Development of Children's Mathematical Thinking, What Are We Asking Teachers to Do? and Implications for Our Own Work in Mathematics Education. Educational Technology: Overview of current technology systems and applications in education; Issues in educational technology; Productivity tools: definitions, characteristics, issues, assessment, integration strategies, lesson activities; Integrating the Internet into Education; Locating Internet resources for educational and instructional applications; personal leadership styles; leadership impact in schools.

Course Disposition Statements: (Disposition means natural tendency, emotional constitution of the mind, inclination, or propensity.)

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Description of Target Level 5</th>
<th>Level 2</th>
<th>Description of Target Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Values learning: Attendance</td>
<td>Consistently attends class and is on time. Usually notifies instructor in advance and arranges to meet instructor following a missed class. Usually gives reason for planned absence.</td>
<td>g. Values diversity</td>
<td>Willingly works with others from different ability, race, gender, or ethnic groups. Welcomes feedback and interaction with others. Listens carefully to others and respects the views of those perceived as different from self.</td>
</tr>
<tr>
<td>b. Values learning: Class participation</td>
<td>Actively engaged and interested in the class activities. Volunteers to respond to questions. Participates in discussions.</td>
<td>h. Values collaboration</td>
<td>Actively seeks out and incorporates ideas of others. Willingly works with others to improve the overall environment. Regularly shares information and ideas.</td>
</tr>
<tr>
<td>c. Values learning: Class preparation</td>
<td>Work is completed with attention to detail, is sequential, and is logical. Shows evidence of thoughtful analysis of the assignment. Work shows that adequate time and planning were allocated. Consistently comes to class well prepared.</td>
<td>i. Values professionalism: Respect for school rules, policies, and norms</td>
<td>Knows school rules and policies. Follows them consistently. Understands the purpose of regulations and respects their intent. Accepts responsibility for personally following them in patterns of dress, behavior, etc.</td>
</tr>
<tr>
<td>d. Values learning: Communication</td>
<td>Uses correct grammar in oral and/or written communication. Communication is free of offensive or inappropriate language. Uses language to express ideas very effectively regardless of the age of the listener.</td>
<td>j. Values professionalism: Commitment to self-reflection and growth</td>
<td>Recognizes personal limitations and strengths and uses them to best professional advantage. Actively seeks suggestions and constructive criticism. Regularly practices critical thinking. Regularly engages in learning through self-reflection.</td>
</tr>
<tr>
<td>e. Values personal integrity: Emotional control</td>
<td>Displays steady emotional temperament. Is receptive to viewpoints of others and their suggestions. Holds self accountable for emotions and behaviors. Displays a sense of humor and/or willingness to get along with others.</td>
<td>k. Values professionalism: Professional development and involvement</td>
<td>Regularly and actively participates in professional activities or events that promote professional development. Makes use of information from professional organizations, professional publications, and educational resources.</td>
</tr>
<tr>
<td>f. Values personal integrity: Ethical behavior</td>
<td>Is honest in dealing with others. Puts truth above personal need or advantage. Always dependable in terms of keeping personal and professional confidences. Can be counted on to follow through and keep word. Shows self to be a person of strong character.</td>
<td>l. Values professionalism: Professional responsibility</td>
<td>Accepts responsibility for own actions and for helping all students learn and actively seeks self-improvement. Consistently holds high expectations for the success of all students. Consistently looks to explain and remedy student lack of success by factors within the control of self.</td>
</tr>
</tbody>
</table>
Standards addressed in this course and Critical Performance Indicator:

Kentucky Teacher Standards (KTS):
- KTS Standard I: The Teacher Demonstrates Applied Content Knowledge
- KTS Standard VI: Demonstrates Implementation of Technology
- KTS Standard X: Provides Leadership Within School/Community/Education

National Council of Supervisors of Mathematics (NCSM) PRIME Leadership Framework:
- Ensure high expectations and access to meaningful mathematics learning for every student.
- Ensure high expectations and access to meaningful mathematics instruction every day.
- Ensure relevant and meaningful mathematics in every lesson.
- Ensure timely, accurate monitoring of student learning and adjustment of teaching instruction for improved student learning.

National Council of Teachers of Mathematics (NCTM) combined with NCSM:
- Leading the pursuit of a better mathematics future for every child
- Assuming and exercising professional responsibility and accountability for their own practice
- Assuming and exercising professional responsibility and accountability of the teachers they lead

National Educational Technology Standards (NETS) for Teachers:
- ISTE Standard 3: Model Digital-Age Work and Learning
- ISTE Standard 5: Engage in Professional Growth and Leadership

International Society for Technology Education (ISTE) Leadership Standards:
- TL-III: Teaching, Learning and the Curriculum
- TL-VI: Productivity and Professional Practice
- TL-VIII: Leadership and Vision

Educational Professional Standards Board’s (EPSB) code of ethics (url: http://www.kyepsb.net/legal/ethics.asp)
EPSB Themes: Closing Achievement Gap

Course Schedule for Fall 2010 Semester:
Link to WKU fall Academic Calendar: http://www.wku.edu/Dept/Support/AcadAffairs/Registrar/fall/calendar.html

All assignments are due by midnight of the due date.
All seminars are held on Mondays from 5:00pm – 8:00pm.

DB: Discussion Board (in BlackBoard)
TDB: Technology Discussion Board (in Google Groups, you must have a Google email account)

<table>
<thead>
<tr>
<th>Three Content Strands in ELED 571</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week #1: Oct. 4</strong></td>
</tr>
<tr>
<td><strong>Lenses on Learning</strong></td>
</tr>
<tr>
<td>All DB’s in this column can be found in BlackBoard. (See the Lenses on Learning Strand file for more explanation.)</td>
</tr>
<tr>
<td>Assignment: HEAT Module (due 10/17)</td>
</tr>
<tr>
<td>Session 1: Activity 1: Video; BJ #1 (due 10/10) Activity 2: DB #1; BJ #2 (due 10/10)</td>
</tr>
<tr>
<td>Session 1: Activity 3: DB#2; BJ#3 (due 10/17)</td>
</tr>
</tbody>
</table>

Leader: (See the Leadership Strand file for more explanation.)
| Seminar #1: | Oct. 25 | Animoto and PREZI DISC Leadership |
| Week #4: | Oct. 25 | Assignment: Teacher (you) and your students develop Animoto or PREZI on any math problem solving topic (due 11/14) Reading: Gardner, Chap. 1 “Minds viewed globally”, pp. 1-19 |
| Week #5: | Nov. 1 | Assignment: Continue working on Animoto or Prezi project with your students (Due 11/14) Readings: Prensky, Chap. 1 “Partnering” and Chap. 2 “Moving to the Partnering Pedagogy”, pp. 9-52 |
| Week #6: | Nov. 8 | Assignment: Work on digital story (due Dec 5) Readings/viewing: Prensky, Chap. 3 “Think people and passions” pp. 53-70 Video: Video Clip TED – What drives us to Learn – By Daniel Pink TDB #4 (due 12/5) |
| Week #7: | Nov. 15 | Assignment: Complete working on Digital Story (Due Sunday, 12/5) Readings/Viewing: Gardner, Chap. 3 “The synthesizing mind”, pp. 45-76 Video: Mike Csikszentmihalyi – Getting into the FLOW TDB #4 (due 12/5) |
| Week #8: | Nov. 22 | No assignments in these areas (Thanksgiving week) Work on MTL Growth Plan |
| Week #9: | Nov. 29 | Assignment: Continue working on Digital Story (Due Sunday, 12/5) Readings/Viewing: Gardner, Chap. 3 “The synthesizing mind”, pp. 45-76 Video: Mike Csikszentmihalyi – Getting into the FLOW TDB #4 (due 12/5) |
| Seminar #3: | Dec. 6 | Digital Story Presentations – small groups Discussion about Leadership Growth Plan |
| Week #10: | Dec. 6 | Complete MTL Growth Plan (Due Friday December 10, 2010) |

Course Evaluation: (based on accumulated points)
<table>
<thead>
<tr>
<th>Completion of three surveys/Participation in Seminars</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenses on Learning:</td>
<td></td>
</tr>
<tr>
<td>4 sessions (75 points each)</td>
<td>300</td>
</tr>
<tr>
<td>Technology:</td>
<td></td>
</tr>
<tr>
<td>Participation in DBs (book discussions 15 pts)</td>
<td>60</td>
</tr>
<tr>
<td>HEAT module</td>
<td>50</td>
</tr>
<tr>
<td>Basic Skills Technology Module (25 pts)</td>
<td>150</td>
</tr>
<tr>
<td>Digital Story (75 pts)</td>
<td></td>
</tr>
<tr>
<td>Prezi (50 pts)</td>
<td></td>
</tr>
<tr>
<td>Leadership:</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>65</td>
</tr>
<tr>
<td>MTL Growth Plan</td>
<td>200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>900</td>
</tr>
</tbody>
</table>

**Grading Scale**
- A = 90% = 810-900
- B = 80% = 720-809
- C = 70% = 630-719
Class Time Management:
Management of your personal “class time” is one of the most difficult issues for students in an online class. Most face-to-face classes meet three hours a week and students are expected to spend up to six hours per week in class preparation and assignments. Therefore, you can expect to spend up to nine hours per week on any university course whether face-to-face or online. (Travel time has been a major consideration for many of you in face-to-face classes.) It is not advisable to procrastinate not only because of the time involved but the technical issues you may face and the time required to teach your lesson.

Submission of Assignments:
1. WKU subscribes to TurnItIn, a plagiarism service that gives professors an originality report for each student paper turned in. Your assignments may be checked through this service.
2. You will maintain your own blog journal through WordPress. It should be private but allow your instructors access to read your reflections.
3. There will be various methods used for class discussions. Some will be Discussion Boards through BlackBoard; however, other Web 2.0 discussion tools will also be used.
4. The preferred method for submission of your assignments is to upload your assignment file through BlackBoard.
   a. View the assignment description under Assignments in our BlackBoard course.
   b. Click on the link “View/Complete Assignment: Assignment Name” under the assignment description.
   c. Type a comment to your instructor about your assignment. It will not submit if you do not type something.
   d. Click “Browse” and locate your assignment file on your hard drive or diskette.
   e. If you have another file to upload, click “Add Another File” and Browse to locate your file. Be sure to add all files that you need to submit before you click Submit. You cannot come back to this screen.
   f. Click “Submit” to send your file to your instructor.

Emails to Instructor:
1. ALL emails should be to both of your instructors and MUST be in the following format:
   ELED 571, First Initial, Last Name, Topic
   Emails without this format will (gently) be returned to you to revise the subject. We are not trying to be rude! Our email programs sort mail according to the class number. If you do not use this standard email format, your message may get lost and many have been lost in past courses. Please help us with this!
2. Please set your email options such that when you reply to any message, it will include the original message. When you email me, my email software will retain your original message when I reply. If you reply back, your message should retain both your original message and my response. This helps to remind me of our ongoing conversations. Thanks!!
3. Please avoid emails with "humorous” attachments or emoticons, texting abbreviations, viruses by using virus-checking software, and using floppies that have been used on public machines. Use correct English grammar and spelling in all emails to your instructor. Remember that your emails are professional communication with your instructor.

Naming Files: In general, all files submitted should begin with your last name, then a period, then the module code, and a description of the assignment. For example, “Maxwell.Leadership.Plan.doc”.

Late Assignments: Assignments turned in after due dates during the semester will result in a 10% reduction per day unless prior arrangements were made with the instructor. Any assignments turned in after the last due date (see course calendar) will result in a 20% reduction per day unless prior
arrangements were made with the instructor. Technical problems are NOT an excuse unless reported to the instructor prior to 24 hours before due date.

**Plagiarism:** To represent work for course assignments or projects taken from another source (INCLUDING WEB SOURCES) as one’s own is Plagiarism. Plagiarism is a serious offense at WKU. The academic work of a student must give an author credit for borrowed source material from his/her material. To lift content directly from a source [INCLUDING THE INTERNET] without giving credit is a flagrant act. To present a borrowed passage without reference to the source after having changed a few words is also plagiarism. **Plagiarism also includes submission of the same assignment for more than one class.** Plagiarism could result in a grade of an “F” for the assignment and/or the course.

WKU subscribes to TurnItIn, a plagiarism service which gives professors an originality report for each student paper turned in. Your assignments may be checked through this service.

**Participation and Communication:** Students in this online course are not expected to attend any class at WKU; however, student class participation is required. You ARE a part of a distributed class, i.e., you and your classmates are spread around the US and even the world! Each time you come to class via Blackboard on the web, please check Announcements for any current or relevant new information. You must discipline yourself to complete assignments on time. It is strongly suggested that the student notify the instructor in advance of a possible absence for three or more days.

Students’ participation grade includes completion of class assignments, reading all assigned materials, turning in assignments on time, maintaining contact with the instructor, use of the Q & A Discussion board, and maintaining a positive professional attitude. Your instructor is happy to make an appointment (either in person or by phone) with any student to help with any assignment or answer any questions. However, it is easier for your instructor to respond more quickly to email than regular postal mail or phone messages.

Due to the fact that: (a) it is often difficult to correctly interpret the intended tone of an email message/discussion board posting; (b) it is often too easy to quickly zip off a rude communication to someone without first finding out “the whole story” or thinking through the possible consequences of doing so; and (c) people sometimes will communicate things electronically that they would never say in a face-to-face conversation, students should take care to be polite, to-the-point, professional, and respectful in all communication in this course. In the case that inappropriate/disrespectful student communication is received by the professor or posted on a discussion board, the professor reserves the right to deduct points, delete it without answering questions or responding in any way, retain copies to be used as evidence in student disciplinary proceedings, or take any other appropriate action she sees fit. Please review the following netiquette website for more information about ethical and considerate online behavior:

**Disability Accommodations Statement:** “Students with disabilities who require accommodations (academic adjustment and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services, DUC, room A-200. The Office for Student Disability Services (OFSDS) telephone number is 270-745-5004. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the OFSDS.”

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**Course Assignments, Projects, and Evaluation**

**Survey and Participation:**

**Survey Completion (30 points)**

1. Digital Age Survey 10 points
2. Math Efficacy 10 points
3. DISC Leadership 10 points

**Participation in Seminars (45 points, 15 points per seminar)**
1. Participation in seminar discussions and activities.
2. Maintaining positive professional attitude. (No derogatory comments concerning other students or the instructor will be tolerated on the public discussion board. This type of comment should be addressed privately to the individual in concern only.)

**Lenses on Learning (300 Points)**

Lenses on Learning is a set of seminars designed to help instructional leaders think through the ideas that underlie standards-based reform in elementary mathematics and relate those ideas to their own work. Instructional leaders consider the following topics: the nature of mathematical understanding, the development of children’s mathematical understanding, discourse-based mathematics instruction, and professional development for teachers. In this course we will complete Module 1: Instructional Leadership in Mathematics. Participation in each of the four sessions will be worth 75 points each.

**Technology**

**Book Discussions – Google Discussion Board (60 points)**

MTLA participants will read and discuss two books throughout the three courses (ELED 571, ELED 572, ELED 573) for this program. The two books are *Five minds for the future* by Howard Gardner and *Teaching digital natives: Partnering for real learning* by Marc Prensky. There will be discussion forums about topics in these books and how they apply to elementary mathematics.

**HEAT Module (50 points)**

HEAT stands for Higher-order thinking, Engaged learning, Authentic learning, and Technology integration. Technology is not just an add-on but should be integrated into good teaching that incorporates the H, E, and A. This module contains several videos that you will view and rate according to the HEAT framework.

**Technology Skills (TS) Modules (75 points each)**

- Basic Skills
- Digital Storytelling

**Multimedia Project and Presentation (100 points)**

MTLA participants will create a multimedia project that meets the following requirements:

- Presents and solves a math problem for your grade level
- Represents a HEAT level of 3 or higher for each component
- Uses 2 or more Web 2.0 tools
- Create one lesson plan for the project
- Present this project to a small group at the last seminar

**Blog Journals and Discussion Boards:**

Refer to course calendar for Blog Journals or Discussion Board due dates. Rubric below will be used to grade all discussion posts and responses.

**Scoring Rubric for Blog Journals and Discussion Board (partial points may be given)**

All Discussion Boards (DB) are worth 15 points; however, Blog Journals (BJ) are awarded variable points. See point values below.

<table>
<thead>
<tr>
<th>Point values:</th>
<th>DJs with 20-point value:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBs or DJs with 15-point value:</td>
<td>DJs with 20-point value:</td>
</tr>
<tr>
<td>4 = 14-15 points</td>
<td>4 = 18-20 points</td>
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<td>3 = 10-13</td>
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<td>3 = 8-9</td>
<td>3 = 28-36</td>
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<tr>
<td>Rubric scores</td>
<td>Quality of Participation</td>
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<td>---------------</td>
<td>-------------------------</td>
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</tbody>
</table>
| 4 93-100%     | - Discussion/blog postings are submitted on time.  
|               | - Contributions are meaningful and demonstrate understanding and synthesis of ALL assigned activities, readings and videos.  
|               | - Discussion forums: In-depth thought and contributions that encourage intellectual growth of other participants. APA references are added for further information located by student.  
|               | - Reflections: demonstrates in-depth thought and reflection. APA references added often.  
|               | - Adds significant resources such as links to articles, websites, videos, blogs, podcasts, etc. that contribute to the week’s topics and ties them into your discussion.  
|               | - Discussion postings are respectful and courteous.  
|               | - Two or more comments are added to other students’ posts. |
| 3 70-92%      | - Discussion/blog postings are submitted on time.  
|               | - Contributions are meaningful and demonstrate understanding and of most assigned activities, readings and videos.  
|               | - Discussion forums: Some thought and contributions encourage intellectual growth of other participants. One APA reference added for further information located by student.  
|               | - Reflections: demonstrates some thought and reflection. APA reference added sometimes.  
|               | - Adds a few resources such as links to articles, websites, videos, blogs, podcasts, etc. that contribute to the week’s topics and ties them into your discussion.  
|               | - Discussion postings are respectful and courteous.  
|               | - One comment added to other students’ posts. |
| 2 40-69%      | - Discussion/blog postings are late.  
|               | - Overall contribution/response is lacking in that readings are only sometimes incorporated into the discussions and postings are not always on topic.  
|               | - Discussion forums: Adds one resource that does not significantly contribute to the week’s topics or does not really tie them into the discussion. No APA reference added.  
|               | - Reflections:  
|               | - Discussion postings are respectful and courteous. |
| 1 1-39%       | - Overall contributions are not meaningful. For example, the posts do not go beyond "I agree" or "Good post."  
|               | - Very little evidence of having read course materials or giving any in-depth thought to the topic.  
|               | - No additional resources added. |
| 0             | - No contribution to discussion or reflection. |

**ELED 571 Culminating Project**  
**Math, Technology, and Leadership Growth Plan (200 points)**

Throughout the three years of the MTLA you will develop a professional portfolio. You will begin this portfolio in the three courses during the first year of MTLA by developing a Professional Growth Plan.
(PGP) for Leadership (ELED 571), Math (ELED 572), and Technology (ELED 573). In the second and third years of MTLA you will develop projects (which will be evidences) in your portfolio to demonstrate that you have accomplished the goals that you set in your PGP strands. Your final portfolio will be submitted in the spring of the third year of MTLA. We will discuss your PGP and portfolio much more in the seminars and during the classes.

In this course you will identify your strengths and areas of growth for National Council of Supervisors of Mathematics (NCSM) PRIME Leadership Framework and International Society for Technology Education (ISTE) Leadership Standards. You will reflect on these and identify actions/projects that you will complete to address your growth areas.

See the MTA PGP file on BlackBoard for more details.
Appendix E: Leadership Growth Plan section of MTL Growth Plan

Math, Technology, and Leadership Professional Growth Plan (MTL PGP)

General Instructions for Development of a Professional Growth Plan

Overview of the Math, Technology, and Leadership (MTL) Professional Portfolio:
Throughout the three years of the MTLA you will develop a professional portfolio. You will begin this portfolio in the three courses during the first year of MTLA by developing a Professional Growth Plan (PGP) for Leadership (ELED 571), Diverse Learners (ELED 572), and Assessment (ELED 573). In the second and third years of MTLA you will develop projects (which will be evidences) in your portfolio to demonstrate that you have accomplished the goals that you set in your PGP strands. Your final portfolio will be submitted in the spring of the third year of MTLA. Don’t worry; we will discuss your PGP and portfolio much more in the seminars and during the classes.

1. One strand of your professional growth plan (PGP) will be completed in each course of the Math, Technology, and Leadership Academy. The PGP is an assessment and planning document aligned with State and National Standards. The PGP serves as evidence of planned professional growth during the MTLA and is the planning tool for developing the professional portfolio.

2. To develop your PGP, you will focus on a specific topic or set of standards in each course:
   Leadership in ELED 571,
   Diverse Learners in ELED 572, and
   Assessment in ELED 573.
   Think about and reflect on areas/standards of your strengths and areas/standards where you need to grow in each of these topics.

3. Use the template provided below to list standards and indicators.
   a. In the first section, list two or more standard indicators and for each, provide a brief reflective statement of what your strengths are in these areas.
   b. In the next section, list two or more standard indicators again and for each, provide a brief reflection statement on what might be some growth areas.
   c. In the following section for each standard indicator describe two actions you will take to grow in the selected area, and two pieces of evidence you will use to document growth in that area. You can use the same actions and evidence to demonstrate growth for no more than two standard/indicator areas. Evidence may include items such as course projects, videos, samples of student work, analysis of student work, professional presentations, projects you completed at the Housing Authority, projects with families, etc. Evidence must be items that can be included on a CD or DVD as part of the professional portfolio. The best kinds of evidence are those that demonstrate your math, technology, and leadership skills in collaboration with colleagues, where you positively impact student learning.
4. Actions and evidences may be added, revised, and generally changed as you complete courses and projects during the three-year MTLA.
Name: Melissa Zimmer  
Address: 210 Legends Drive  
City/State/Zip: Bowling Green, KY 42103  
Phone: 270-784-5386

Semester: Fall 2010  
Standards Used: AMTE and ISTE  
Email: Melissa.zimmer@warren.kyschools.us

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1. My Professional Strengths:

**ELED 571:**
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard III: Leadership Knowledge and Skills (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

3A. Use professional resources such as professional organization networks, journals, and discussion groups to be informed about critical issues related to mathematics teaching and learning, e.g., policy initiatives and curriculum trends.

I believe there are four factors currently in place that help me meet this indicator. 1) My participation in the MTLA ensures that I will be abreast of to-date, research-based, best practices for mathematics teaching. 2) Through my school’s participation in the GEMS grant, I am afforded regular professional development sessions with other 5th grade mathematics teachers, led by an expert on problem-based mathematics instruction. 3) PLCs, (professional learning communities), meet weekly at my school and biannually in my county to discuss and align mathematics teaching with new policy initiatives and curriculum standards. 4) My schools has several participants in the Math Alliance who provide relevant training and communication for the rest of us.

3D. Evaluate educational structures and policies that affect students' equitable access to high quality mathematics instruction, and act professionally to assure that all students have appropriate opportunities to learn important mathematics.

I believe my school provides me with several advantages to assure at all students have appropriate opportunities to learn important mathematics. 1) We have purchased Mentoring Mathematical Minds materials for all Math students, not just gifted students. 2) We have hired two new ELL aids to accompany intensive English learners to their classrooms. 3) We have purchased both Successmaker Math and Fast Math to assist students needing remediation. 4) We were a pioneer in starting mathematics RTI before it was required. We have several Title 1 teachers who provide an extra 30 minutes of
math instruction each day to qualifying students. 5) Teachers meet semesterly to review achievement data for each individual student.

International Society for Technology Education (ISTE) Teacher Standards: Standard 4: Promote and Model Digital Citizenship and Responsibility or Standard 5. Engage in Professional Growth and Leadership (Describe your professional strengths for any of the indicators for either standard. Give the indicator and your description.)

5A. Participate in local and global learning communities to explore creative applications of technology to improve student learning.

My participation in the MTLA, as well as Professional Learning Communities in my school, will allow me to explore creative applications of technology to improve student learning. Currently, several colleagues in my school have applied for mini-grants that would allow us to purchase more technological equipment for the students. The applications the students would use, however, are free internet resources. (Google docs, Twiducate, etc.)

5C. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning.

My participation in the MTLA, as well as Professional Learning Communities in my school will ensure that I evaluate and reflect on the current research and professional practice for effective technology use on a regular basis. There is a technology component in my school’s CSIP, so I will be participating in a school-wide effort to ensure we are supporting student learning with technology.

**ELED 572:**

Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard I: Content Knowledge for Teaching Mathematics—Part b. and Standard II: Pedagogical Knowledge for Teaching Mathematics—Part a. and b. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

International Society for Technology Education (ISTE) Teacher Standards: Standard 1: Facilitate and Inspire Student Learning and Creativity or Standard 3: Model Digital-Age Work and Learning (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**ELED 573:**
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard II: Pedagogical Knowledge for Teaching Mathematics—Part c. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

International Society for Technology Education (ISTE) Teacher Standards: Standard 2. Design and Develop Digital-Age Learning Experiences and Assessments (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

<table>
<thead>
<tr>
<th>2. My Areas for Professional Growth:</th>
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<tbody>
<tr>
<td><strong>ELED 571:</strong></td>
</tr>
<tr>
<td>Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard III: Leadership Knowledge and Skills</td>
</tr>
<tr>
<td>3C. Plan, develop, implement, and evaluate professional development programs at the school and district level and support teachers in systematically reflecting and learning from practice.</td>
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<tr>
<td>I think it would be beneficial for the students at my school if I could grow in this area. Currently, it is my perception that both school- and district-wide, many teachers are receiving, implementing, and even evaluating good professional development on an individual basis. To truly improve mathematics instruction for all students, there needs to be consistency and uniformity at the school and district levels. Achieving this uniformity and consistency will be the goals of the actions I list in the next section.</td>
</tr>
<tr>
<td>3E. Use leadership skills to improve mathematics programs at the school and district levels, e.g., develop appropriate classroom- or school-level learning environments; build relationships with teachers, administrators and the community; develop evidence-based interventions for high and low-achieving students; collaborate to create a shared vision and develop an action plan for school improvement; partner with school-based professionals to improve each student’s achievement; mentor new and experienced teachers to better serve students.</td>
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<tr>
<td>I would like to use leadership skills to improve mathematics programs at the school and district levels by unifying all teachers in a commitment to problem-based mathematics instruction. There seems to be a persistent fear among teachers that</td>
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</table>
slowing down to think and solve problems results in less content covered and, subsequently, lower test scores. Those who have employed some problem-based learning seem to agree that their students’ learning does not suffer in any way. However, part of my role as a leader will be to incentivize those resisting the shift to this instructional style. Therefore, incentives will have to be part of my plan listed in the next section.


4D. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.

Teachers often gripe that students do not apply their learning outside the classroom setting. One of the reasons I think this may be is because students do not realize that an appreciation for their learning exists in the real-world. By engaging with colleagues and students of other cultures using digital-age communication and collaboration tools, students could gain an appreciation for the universality of both the curriculum content and technology applications they are learning in school. I will detail ideas for this in the next section.

5B. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.

Warren County prides itself on county-wide Professional Learning Communities, (PLCs), and curriculum mapping. All teachers have already met together to begin mapping the Common Core Standards the county has adopted for the 2011-2012 school year. As a facilitator for 5th grade Language Arts, I, and one other colleague, led my grade-level teachers from across the county in unpacking the standards and establishing learning targets. I would like to continue this leadership in the field of technology, developing not only county-wide learning targets, but also a technology certificate program for students. I will elaborate on this in the following section.

ELED 572:
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard I: Content Knowledge for Teaching Mathematics—Part b. and Standard II: Pedagogical Knowledge for Teaching Mathematics—Part a. and b. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

International Society for Technology Education (ISTE) Teacher Standards: Standard 1:
Facilitate and Inspire Student Learning and Creativity or Standard 3: Model Digital-Age Work and Learning (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)

**ELED 573:**
Association of Mathematics Teacher Educators (AMTE) Standards for Elementary Mathematics Specialists; Standard II: Pedagogical Knowledge for Teaching Mathematics—Part c. (Describe your professional strengths for any of the indicators for these standards. Give the indicator and your description.)

International Society for Technology Education (ISTE) Teacher Standards: Standard 2. Design and Develop Digital-Age Learning Experiences and Assessments (Describe your professional strengths for any of the indicators for this standard. Give the indicator and your description.)
## PLAN FOR PROFESSIONAL GROWTH

### ELED 571

<table>
<thead>
<tr>
<th>Professional Society: AMTE</th>
<th>Standard: III: Leadership Knowledge and Skills</th>
<th>Critical Performance Indicator: E. Use leadership skills to improve mathematics programs at the school and district levels, e.g., develop appropriate classroom- or school-level learning environments; build relationships with teachers, administrators and the community; develop evidence-based interventions for high and low-achieving students; collaborate to create a shared vision and develop an action plan for school improvement; partner with school-based professionals to improve each student’s achievement; mentor new and experienced teachers to better serve students.</th>
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</thead>
</table>

**Actions- What I will do and resources I will need:**

1. **Conduct clinical interviews with students in my school as a way of assessing, designing instruction for, and reassessing our students and their problem-solving skills.**

   As the standard says, I will use clinical interviews to improve problem-based mathematics instruction at my school by mentoring new and experienced teachers to better serve students. 1) First, I would like to lead teachers at my school through the clinical interview exercises provided in the Lenses on Learning text. 2) Next, I will collect teacher input so that we can determine the concepts and questions with which we will interview our own students at each grade level. I would also welcome input on the interviewee selection process. 3) Third, I will conduct and video tape the first round of clinical interviews. (If my colleagues and I determine results will be more valid and reliable if we use an outside interviewer, then I will discuss funding options with my principal and our site-based council.) 4) Then, teachers will review and discuss the students’ interviews. From the interviews, we will collect anecdotal evidence of students’ achievements as well as deficiencies, and brainstorm best-practices that we can implement in our instruction to ensure continuous progress in the students’ problem-solving abilities. 5) After teachers have had time to tweak and implement their instruction, we will conduct a round of follow-up interviews with the same students. 6) Finally, teachers will meet to evaluate whether we saw student growth, what practices contributed to that, and how we can use clinical interviews or informal classroom interviews with our own students to continue to guide them through problem-based learning.
2. Partner with classroom teachers, interventionists, and resource teachers to sustain the practices we have adopted from our Mentoring Mathematical Minds units, so that this problem-based learning instruction continues even after our grant money runs out.

As the standard says, I will partner with school-based professionals to improve each student’s achievement. Particularly, I would like to focus on the students’ mathematical problem-solving skills, as taught through the Mentoring Mathematical Minds curriculum. Sustainability of the Mentoring Mathematical Minds curriculum requires a two-pronged approach.

First, we need to sustain the requisite professional development and planning time teachers need to effectively implement these units. This prong includes, 1) working with our ECC to make sure time for our M3 units is included in our curriculum map, 2) scheduling time for interventionists and resource teachers to observe classroom teachers willing to model M3 instruction in practice, 3) facilitating professional development for newly hired teachers or teachers new to this mathematical instruction, and 4) allotting time for all teachers to analyze students’ progress, as evidenced by the data collected from the units of instruction, and evaluate their own implementation of the units.

The second prong requires the accounting of resources. I need to partner with my colleagues to 1) develop lists of consumable materials needed in these units and brainstorm ways to acquire them at minimal cost, and 2) calculate the cost of the consumable student mathematician journals and discuss funding with our ECC, principal, and site-based council.

Impact- Evidence in Portfolio of progress in implementing the Actions will be:

Conduct clinical interviews with students in my school as a way of assessing, designing instruction for, and reassessing our students and their problem-solving skills.
1. Student achievement data, before and after the clinical interview initiative (GMADE, IOWA, KCCT)
2. Samples of clinical interviews
3. Compilation of anecdotal evidence collected from the clinical interviews

Partner with classroom teachers, interventionists, and resource teachers to sustain the practices we have adopted from our Mentoring Mathematical Minds units, so that this problem-based learning instruction continues even after our grant money runs out.
1. Normed student achievement data (GMADE, IOWA, KCCT)
2. Student achievement data on M3 pre- and post-tests
3. Samples of student work in their mathematicians journals and on formative assessments
Professional Society: AMTE  
Standard: III: Leadership Knowledge and Skills  
Critical Performance Indicator: C. Plan, develop, implement, and evaluate professional development programs at the school and district level and support teachers in systematically reflecting and learning from practice.

**Actions - What I will do and resources I will need:**

1. **Initiate a Japanese Lesson Study at my school, then provide the same professional development at the county level.**
   Because the purpose of a Japanese lesson study is to systematically reflect and learn from practice, the planning, development, implementation, and evaluation of one would meet this standard.
   1) To plan this type of professional development, I need to research the various ways in which one can be initiated. For example, some schools bring in an expert, while others select leaders within the school to follow guided instructions in leading a lesson study. I will need to solicit feedback from those who have done this on what is most effective as well as affordable.
   2) With a group of interested volunteers from my school, we need to develop an implementation plan. This includes a) developing a research theme, like increases students’ independent thinking in mathematics, b) focusing the research by choosing a goal and unit of study, c) establishing a lesson plan template, and d) determining which of us will teach the lesson, who will observe, who will take anecdotal notes, and who will video tape the lesson. While steps a-d are actually part of implementing a Japanese Lesson Study, they also meet the development part of this standard.
   3) To implement this professional development, my colleagues and I will continue with the steps in the lesson study process. e) We will teach and observe the lesson as planned above, f) discuss the lesson after its completion, g) revise the lesson and re-teach it, and h) document the findings we made in regard to meeting the goal set in step b.
   4) As a group, we need to evaluate the effectiveness of our lesson study and share these evaluations with the rest of our county. From there, other we can collaborate with other schools interested in using the same process.

There are many resources on Japanese Lesson Study. Here is one site I used to help me complete my growth plan.
http://www.glencoe.com/sec/teachingtoday/subject/japanese_lesson_study.phtml
Impact- Evidence in Portfolio of progress in implementing the Actions will be:

1. Student achievement data (GMADE, IOWA, KCCT)
2. Videos of teachers implementing a lesson developed through the lesson study process
3. Compilation of documented findings made during the lesson study process
4. Evaluations of the lesson study as professional development completed by teachers

Professional Society: ISTE

Standard:
4. Promote and Model Digital Citizenship and Responsibility

Critical Performance Indicator:
D. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools.

Actions- What I will do and resources I will need:

1. **Pilot an audio/visual Problem of the Week program that allows students to share their problem-solving strategies with students in classrooms in other schools, states, and countries.**
   1) Establish a network of teachers from other schools, states, and countries. Since I am from out of state, and several of my M.Ed. professors were from other countries, I feel I have a good jump on collecting a list of contacts to start with.
   2) Group teachers by grade level and determine from where they will get the problems used. Teachers may decide to use a specific curriculum or that teachers will rotate in providing the problem for each week. To improve cultural understanding and global awareness, teachers may create problems that reveal something about their students’ cultures.
   3) Discuss the technology/technologies accessible to all participating classes. Determine if the group will use one set technology, or allow students to choose from those accessible to the group. Teachers may agree to use movie makers or youtube, but they may also choose something more interactive, like SKYPE if the timing could be arranged. In order to meet the cultural understanding and global awareness standard, the technology should allow students to see the problem-solver’s face and hear his or her voice, even if the students speak different languages.
   4) Determine how students’ solutions will be shared. Will there be a bank where all students’ solutions are posted for viewing? Or, will each teacher feature just one student’s work each week? How will viewing students provide feedback to the problem-solvers?
   5) Begin the Problem of the Week program! Collect samples of problems, student solutions, and student feedback. Collect teachers’ evaluations of the program.

2. **Share results of the Problem of the Week program with colleagues in my own school as well as with those at professional conferences.**
   1) Ask my principal for some time at a faculty meeting to share the results of this
program with my colleagues.

2) Research to find a conference that emphasizes technology and problem-solving. Prepare and submit a proposal to present.

3) If my proposal is accepted and I have the opportunity to present at a conference, I will need to review evaluations of my presentation and help interested parties get involved in the Problem of the Week program.

Impact- Evidence in Portfolio of progress in implementing the Actions will be:

**Pilot an audio/visual Problem of the Week program that allows students to share their problem-solving strategies with students in classrooms in other schools, states, and countries.**

1. Student achievement data (GMADE, IOWA, KCCT)
2. Samples of students’ problem-solving videos
3. Samples of student feedback to the problem-solvers
4. Evaluations and feedback from teacher and student participants

**Share results of the Problem of the Week program with colleagues in my own school as well as with those at professional conferences.**

1. Evaluations from conference presentation
2. Samples of student work and teachers’ evaluations that come from colleagues who joined the Problem of the Week program after attending my presentation.

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<th>Professional Society:</th>
<th>Standard:</th>
<th>Critical Performance Indicator:</th>
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<tbody>
<tr>
<td>ISTE</td>
<td>5. Engage in Professional Growth and Leadership</td>
<td>B. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others.</td>
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</table>

**Actions- What I will do and resources I will need:**

1. **Facilitate the curriculum mapping of technology standards**
   To complete this, I will need to 1) analyze the technology component of the Common Core Standards, 2) as well as research any technology standards for students that have
been established by national and international professional organizations. 3) Partner with colleagues and students interested in mapping these standards. These partners could include classroom teachers, our STLP sponsor, our county’s Technology Resource Teacher, and students who can provide valuable insight. 4) Determine when these partners can and will meet to map standards. 5) Share the map with school and county leaders who may be interested in providing feedback or consider adopting the map.

2. **Pilot a Technology Certificate Program with students at the Bowling Green Housing Authority**

Using the standards mapped above, I will 1) create a list of criteria for students at each grade level to meet in order to earn a technology certificate, 2) develop a pre- and post-assessment of skills, 3) implement lessons for students at the Housing Authority to learn and use these technologies, 4) ask the Housing Authority personnel to evaluate the program, and 5) collect feedback from the students who participated.

3. **Design and evaluate a Technology Certificate Program for Cumberland Trace students**

To implemented this program at Cumberland Traces, I will 1) revise the certificate criteria based on the feedback and evaluations from the Housing Authority personnel and students, 2) partner with colleagues to determine who is interested in this for their students and when (computer lab time or classroom time) students will work toward their certificates, 3) issue pre-post assessments (post assessment will likely be a review if the students’ work samples provided as evidence toward the earning of their certificates), and 4) collect evaluations and feedback from teachers and students.

**Impact- Evidence in Portfolio of progress in implementing the Actions will be:**

- **Facilitate the curriculum mapping of technology standards**
  1. A curriculum map of technology standards
  2. Any feedback from county and school leaders

- **Pilot a Technology Certificate Program with students at the Bowling Green Housing Authority**
  1. Technology Certificate criteria list
  2. Pre- and post-assessment data on students use of technology
  3. Evaluations completed by Housing Authority personnel
  4. Student work samples
  5. Feedback from students at the Housing Authority

- **Design and evaluate a Technology Certificate Program for Cumberland Trace**
students
1. Revised Technology Certificate criteria list
2. Pre- and post-assessment data on students use of technology
3. Evaluations completed by Cumberland Trace colleagues
4. Student work samples
5. Feedback from student participants

ELED 572

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Actions - What I will do and resources I will need:

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Impact - Evidence in Portfolio of progress in implementing the Actions will be:

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**Actions** - What I will do and resources I will need:

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**Impact** - Evidence in Portfolio of progress in implementing the Actions will be:

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**ELED 573**

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**Actions** - What I will do and resources I will need:

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Impact- Evidence in Portfolio of progress in implementing the Actions will be:

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<tr>
<th>Critical Performance Indicator:</th>
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</thead>
<tbody>
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<td>___________</td>
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</table>

<table>
<thead>
<tr>
<th>Actions- What I will do and resources I will need:</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
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</table>

Impact- Evidence in Portfolio of progress in implementing the Actions will be:

1.
2.
3.
### Professional Growth Plan Rubric

<table>
<thead>
<tr>
<th></th>
<th>1 = Unacceptable</th>
<th>2 = Needs Improvement</th>
<th>3 = Proficient</th>
<th>4 = Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Growth Plan</td>
<td>No Professional Growth Plan; or does not identify required number of standard indicators for growth; or does not provide plan or list of evidences for professional growth in standard indicators</td>
<td>Plan does not identify required number of standard indicators for growth; plan lists some but not all required actions and evidences for professional growth in standard indicators; actions and evidences are not of sufficient quality to demonstrate mastery of standard indicators</td>
<td>Adequate identification of required standard indicators for strengths and growth; plan for professional growth identifies adequate number of actions and evidences for standard indicators; actions and evidences are of sufficient quality to demonstrate mastery of standard indicators</td>
<td>Identification of standard indicators for strengths and growth surpasses requirements; plan for professional growth surpasses requirements for actions and evidences in each standard indicator; actions and evidences are of high quality and demonstrate high-level mastery of standard indicators at distinguished level</td>
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Appendix F: Problem Solving Task; completed by Toyota MTLA participant and her students

**Template for Technology Problem Solving Plan with Animoto or Prezi**

**Emily Mills**

11/7/10

<table>
<thead>
<tr>
<th>Topics</th>
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<tbody>
<tr>
<td><strong>Problem Solving Scenario:</strong></td>
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<tr>
<td>The leopard and the antelope are playing a game. A leopard can leap 7 meters in one jump. The antelope can leap 10 meters in one jump.</td>
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</table>

![Diagram of leopard and antelope jumping]

The antelope jumped three times. How many jumps does the leopard need to make to catch up?

<table>
<thead>
<tr>
<th>Explanation of How Assignment was Designed:</th>
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<tbody>
<tr>
<td>This first step I took with the students for this assignment was to go over the math prompt with the whole group. We discussed, as a class, what information the prompt gave us and what we needed to find out. I then grouped the students into pairs to solve the problem. Each pair was given the math prompt and about twenty minutes to try and solve the problem. As the groups worked I circulated the room to offer guidance. I asked the students what their methods were and questioned them about the steps they were taking. I tried to ask students that were not working in the right direction questions that would help them realign their methods to help solve the problem. Once each group solved the problem I had them share their methods with the class.</td>
</tr>
</tbody>
</table>

The next day I showed them an example of an Animoto video and explained that we would be making our own math movies. I told the students that before anyone makes a movie they have to plan for it just like we do in writing. I gave the students a scene page with places to right four scenes. We did one scene at a time and I circulated to check while each group worked. At the end of day two the students had their movie laid out in order of scenes 1-4. |

On the third day I taught the students how to use Animoto. I used one group as my leaders and had them make their video in front of the class using the active board. Once I taught them how to upload pictures and insert text they were off and running. I asked the whole group questions...
as they were watching a video being made to make sure they understood the process.

On the last day we went to the computer lab and created our videos. The students sat with their partners and worked as a team to make their movies. There were three adults in the computer lab to assist the students when needed.

**Connect Instruction, Learning, and Reflection:**
I was very proud of my students’ work on this task from start to finish. The math prompt given went beyond any of the content that we have covered thus far; therefore it was challenge for each student in the classroom. Many students were able to solve the problem on their own while others required only limited assistance.

The most difficult part of the process was having the students write their scenes before they created the video. The students struggled with putting the methods they used to solve the problem into words rather than pictures. Once they found a way to express their thinking in words or numbers they were able to complete their scenes.

The students were very successful in the computer lab. They were able to upload pictures and add text with ease. Adding text was the most time consuming part because of the students’ lack of typing skills. They were able to put their scenes in the correct order or realize when they were out of order and go back and edit their video. I was very pleased with their finished products.

**Heat Assessment**

H-3- The students used the analyzing level of Bloom’s Taxonomy by breaking down the information that was given to them in the prompt. They knew the leopard jumped 7 meters at a time and the antelope 10. They had to take that information and break it down to figure out how long the antelope went if he jumped three times. This was a component to the problem that was not obvious to the students that they had to figure out in order to solve it. From that information the students needed to figure out how many jumps it would take the leopard to catch up.

E-3- The students were given a problem posed by the teacher. They were given the opportunity to solve the problem anyway they liked. Many used their preferred learning styles by drawing, acting it out, using manipulatives, or talking it out.

A-2- This learning experience used real world topics to provide some real world application. I chose to use animals because the students are currently studying animals in science.

T-4- Technology use was integrated to task completion. It promoted collaboration between the students, planning, and implementation. The students had to work together to solve the problem and then work to show how they solved it and explain it to their peers and teacher.
**Explanation of Technology Choice:**
I chose to use Animoto for its simplicity to use with my first grade students. I had the students create a short Animoto video to explain how they solved a math problem. The purpose of the task was to show if the students were able to explain their own thinking when solving a complex math problem. Animoto allowed the students to be highly engaged with the project and show their creativity and knowledge at the same time. The students were very proud of their completed projects and ready to make another one.

**Technology Product:**
*Give 1-3 Animoto or Prezi links for your student projects here:*

http://animoto.com/play/KR030szEBXEElZO5sREXww

http://animoto.com/play/11V8MPsVAdfZEtJPYw25FQ

http://animoto.com/play/88MMia1NkboL2Wh32q63Iw