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ED 411

Leadership Final Project

**Part 1: Topic and Rationale**

The proposed topic for my project is the improvement in math skills at Hillside Elementary School through the use of Common Core State Standards (CCSS) based lessons, specifically focusing on EL learners. Eighty-seven percent of our student population is Hispanic/Latino, we have 33% EL learners, and 60% of our student population is eligible for free or reduced-price lunch. Thirty-three percent of our parent population did not graduate high school, 41% did, and only 9% have a college degree. School wide, 45% of our students are at or above proficient in math, while only 37% of our EL learners are at or above proficient, as measured by the 2013 CST Math results. Both are very low numbers, and thus the rationale behind my leadership project, to increase the math word problem solving abilities of EL learners.

The aim of the Common Core Standards is to create consistency in curriculum across the fifty states to avoid the marginalization of any and all students and ensure that all students receive a quality and equitable education that serves them not only in grades K through 12, but prepares them for their future schooling and careers/vocations as well.

As part of the CCSS leadership at my team, I will be conducting professional developments with the 4th, 5th, and SDC teachers at my school site, introducing them to the CCSS and helping them understand what a Math CCSS three-phase structure lesson would look like in the classroom. These professional developments will include ideas for CCSS based lessons that incorporate SDAIE strategies and the modeling of the three-phase, five-step math word problem solving lesson in two fourth grade classrooms. This five-step lesson asks students to do a systematic, close reading of math word problems in order to help them come up with the solution. Strategies on how to help students justify and explain their reasoning will also be shared since they make up part of the three-phase structure lesson to be used.

My project includes monitoring classrooms by shadowing my principal to document if the strategies presented in professional developments are being implemented in the 4th, 5th and SDC classrooms. This will ensure educational equity for all students at my school. Since the students at my school already represent a marginalized population, EL learners end up being a marginalized group within an already marginalized school. I want to especially ensure equity for them by providing the teachers mentioned above with further scaffolds designed to benefit this specific population.

My team is made up of the 4th,5th and SDC teachers. We will be the ones implementing the strategies I will be presenting to them at professional developments, monitoring the students to see if progress is being made and to see if ELs are accessing the content in the CCSS. This team will help me in many ways. They will help me analyze data I will collect from classroom walkthroughs with the principal as well as math assessments the students will be taking to monitor their progress. This will allow us to see if the lessons and strategies are being implemented, if outcomes on tests demonstrate EL growth compared to other subgroups, such as RFEPs and EOs, and if there are any changes that need to be made to our intervention. The data will hopefully allow us to see what changes need to be made to our lessons and how they are being presented, or if we need to add or change the strategies presented during the professional developments, or to see what other strategies we need to try, to help our EL students.

**Part II: Literature Summary**

The topic for my leadership project centers around giving English language learners an opportunity to access and do what the Common Core State Standards (CCSS) asks of them, specifically in the area of elementary school math. I reviewed three articles in order to get smarter and to see what the experts have to say about my topic.

The first article I chose is a research paper presented at the 2013 Annual Meeting of the American Educational Research Association. It is titled, “Realizing Opportunities for English Learners in the Common Core English Language Arts and Disciplinary Literacy Standards.” It is a joint effort between two language and literacy researchers, specializing in the education of ELs and one of the writers of the Common Core State Standards (Bunch, G. C., Kibler, A., & Pimentel, S., 2012). This article is an attempt to explain some of the predominant challenges facing ELs in the Standards and to provide guidance and recommendations based on relevant research and theory (Bunch, G. C., Kibler, A., & Pimentel, S., 2012).

I chose this article because it highlights the language demands of the Common Core Standards for all learners, it points out how those demands will affect ELs, and it offers recommendations on how to address the demands ELs will face when trying to meet the Standards.  The authors write, “ELs not only face the common obstacles all students experience in attempting to gather, manage, and organize the flow of information; they also must analyze and evaluate what they read while negotiating a second language” (Bunch, G. C., Kibler, A., & Pimentel, S. (2012, p.18). The cognitive demands, therefore, will be much greater on an EL learner than a student who is fluent in English.

The article introduces the notions of macro-scaffolding and micro-scaffolding as a way to support ELs in meeting the Standards (Bunch, G. C., Kibler, A., & Pimentel, S. (2012). Macro-scaffolding involves integrating language and content across lessons and units, as well as envisioning what students will be able to do in the future that they cannot currently do (Bunch, G. C., Kibler, A., & Pimentel, S. (2012). Micro-scaffolding, on the other hand, involves the “moment-to-moment work of teaching” (Bunch, G. C., Kibler, A., & Pimentel, S., 2012, p.10). These are important concepts that I will keep in mind when designing Professional Developments that will address the needs of our EL students.

This article clearly describes the challenges ELs will face in the coming Common Core era, and it makes recommendations on general practices within the classroom that will benefit EL students, but it does not provide specific examples of what a lesson or unit would look like in a classroom. The article’s focus is also different from the focus of my leadership project. This article focuses on the English Language Arts Common Core Standards, while my focus is on the Math Standards.

The second article I found is a research-based essay published as a result of The Understanding Language Initiative out of the Stanford University School of Education.  It is titled, “Mathematics, the Common Core, and Language: Recommendations for Mathematics Instruction for ELs Aligned with the Common Core.” It outlines recommendations for meeting the challenges in developing mathematics instruction for English Learners that is aligned with the Common Core Standards (Moschkovich, 2012). The fact that it focuses on math is one of the reasons I chose this article.

Three questions guided the research: “How can instruction provide opportunities for mathematical reasoning and sense making for students who are learning English? What instructional strategies support ELs’ mathematical reasoning and sense making skills? How can instruction help EL students communicate their reasoning effectively in multiple ways?” (Moschkovich, 2012, p.3).

The author points out that several of the mathematical practices described in the CCSS involve language and discourse (Moschkovich, 2012).  For example, Math Practice 1 (M.P.1) asks students to make sense of problems and persevere in solving them, M.P.3 asks them to construct viable arguments and critique the reasoning of others. These are two of the three Math Practices the Los Angeles Unified School District is asking our school to focus on. Both require students to be able to listen, speak, read, and write effectively using standard English. The author points out that for EL students developing these skills, the CCSS will be especially challenging (Moschkovich, 2012).

Another reason I chose this paper is because it helped clarify the teacher’s role and the general practices that must occur inside the classrooms of ELs. This paper suggests that teachers should focus on students’ mathematical reasoning, not accuracy in using language. It also recommends that teachers shift their focus away from simplifying the demands of the tasks for EL learners and ask them to explain, conjecture, and justify using pictures, diagrams, or their native language if necessary (Moschkovich, 2012). It also recommends that teachers support EL students to engage with the complexity of language in math classrooms (Moschkovich, 2012). These are all recommendations I will provide the teachers participating in my leadership project through the Professional Developments I will be conducting.

While this paper provides several practices and recommendations for teachers on what their classroom environment should look and feel like, it does not provide specific activities nor lessons that could be used to address the obstacles ELs will face as they try to explain, conjecture and justify their solutions.  It also does not address questions such as when or how to move students from using everyday communication when describing mathematical situations to using more technical mathematical vocabulary when describing solutions to problems.

The third article I have chosen is an empirical research study that focuses on the effects of a math comprehension strategy called Dynamic Strategic Math on word problem solving for Latino ELs (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013).  It is a qualitative study of six EL students and their growth over time. A multiple baseline design was used to assess six second-grade Latino ELs at risk for math failure (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C. 2013). These six students participated in a supplementary pullout program that consisted of seventeen sessions, with an average of 20-25 minutes per session. The first few sessions were used to establish a baseline for each student and then growth was measured from there (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013). According to the findings, DSM increased word problem solving for all the participants significantly, and all students’ level of performance was maintained during follow-up sessions (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013).

Dynamic Strategic Math provides a set of systematic scaffolding procedures, separated into three phases (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013). In the first phase students are pre-taught math ideas, concepts, and relationships through modeling. Once students become familiar with specific math concepts the teacher then moves then moves to the second phase, where the comprehension strategy instruction takes place. A series of five questions are used to guide the student along towards solving given word problems. The student is asked to find the question, find the key vocabulary/ numbers, set up an equation, solve it, and then check it (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013). In the third phase, the teacher gradually releases the leader role to the student, where they are responsible for generating the questions, answering them, and then checking for understanding (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013).

A student’s zone of proximal development is used to determine what word problems they would be working on. Once the student is able to get through four word problems successfully, not only solving the problem correctly, but generating and answering questions based on the five criteria mentioned above in phase two, they are moved to a new level, where more technical math vocabulary is used and where more steps are required to solve a problem (Orosco, M., Swanson, H., O’Connor, R., & Lussier, C., 2013).

I chose this article because it gives me what the other two articles do not. This article gives me a specific strategy I can use to address the needs of ELs when dealing with word problems, which is the main assessment tool used by the Common Core Standards to gauge a students’ progress in math (http://www.smarterbalanced.org/k-12-education/common-core-state-standards-tools-resources/). I can use this strategy to design Professional Developments that will give the teachers on my team a tool they can use to allow students to be successful at what the Standards asks them to do via Smarter Balance assessments. This strategy gives us a common starting point. From here we can run PDSA cycles to modify and improve the strategy to better fit the needs of ELs.

While the population being addressed, Latino ELs, is similar to the student population at my school, this article does have its limitations. It focuses only on second graders. It is a pullout program provided in addition to the regular math instruction of the day by another educator, thus requiring another teacher with expertise in working with EL students to provide the instruction, something my school cannot afford. Even with these limitations I feel that the strategy it presents, with some modifications, can be highly effective in helping teachers scaffold lessons that provide EL students access to the Common Core State Standards in Math.

In conclusion, I feel that the combination of the three articles described gives me a better understanding of what ELs will be facing in the coming Common Core era. Two of the articles provide useful recommendations I will be sharing with the teachers through professional developments. The final article gives me a specific strategy or tool I can share with the teachers that will help address the needs of EL students in the Common Core Era.

**Part III: School Data Summary and Analysis**

The focus of my leadership project is in the area of math, specifically English language learners and the Common Core State Standards. Several concerns encourage me to undertake this project. There are concerns surrounding current EL performance as measured by the CSTs and concerns surrounding the Common Core State Standards and how ELs will be able to access and be successful with them.

One concern I have is that CST data shows that EL learners district wide have been performing poorly compared to all other subgroups. This gap in performance becomes painfully apparent when compared to White and Asian students. The gap in 2013 between ELs and Asians was almost 40%, as seen below.

CST Math Results % of Students at or Above Proficient 2009-2013

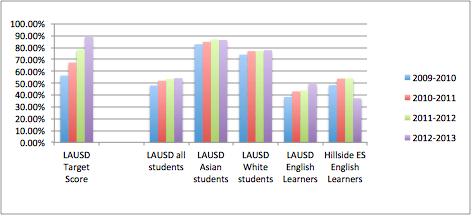
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 |
| LAUSD Target Score | 56.4% | 67.3% | 78.2% | 89.1% |
| LAUSD all students | 48% | 52% | 53.5% | 54.2% |
| LAUSD Asian students | 82.8% | 84.8% | 86.8% | 86.4% |
| LAUSD White students | 74% | 77% | 77% | 77.8% |
| LAUSD English Learners | 38.3% | 43% | 43.8% | 49.3% |

This trend is similar at my school. At my school only about 37% of our ELs were at or above proficient in 2013, while 60% of our Asian students were at or above proficient that same year. There are extenuating circumstances that are not shown in the data. For example we had two male teachers get sent to LAUSD “teacher jail” under accusations that were later proven to be unfounded, one returned to the classroom the other retired. This negatively affected teacher morale. We have also had a total of five principals in the past four years not allowing for any sort of continuity nor stability, both necessary for our school to be successful, but that still is our reality, as shown in the table below.

CST Math Results Percent at or Above Proficient 2009-2013

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 |
| Hillside ES Target Score | 58% | 67.3% | 78.2% | 89.1% |
| Hillside ES all students | 57.9% | 55.9% | 56% | 44.5% |
| Hillside ES English Learners | 48.3% | 53.8% | 54.1% | 37.2% |

The graph below shows how our ELs compare to the district numbers. While we were outperforming the district ELs through 2012, our percentage of ELs that were proficient or better was still well below where the district expected all students to be, as measured by CST math results.

CST Math Results Percent of Students At or Above Proficient 2009-2013

The second major concern I have is that by all accounts the Common Core State Standards will be raising the bar for everyone. For example, students will now be asked to justify their reasoning, in writing, and to critique the reasoning of others. They will be asked to demonstrate using a model and explanations why their answer is correct. If the ELs at my school are currently not performing anywhere near where they should be, as shown by the CST and CELDT data below, how can we expect them to access the Common Core State Standards that are asking them to do much more than simply solve equations and algorithms?

Hillside ES CELDT Annual Assessment

Results for 4th and 5th Grade 2012-2013

|  |  |  |  |
| --- | --- | --- | --- |
| **Performance Level** | **4** | **5** | **Total** |
| Advanced | 0 (0%) | 2 (12%) | 12 (10%) |
| Early Advanced | 2 (10%) | 7 (41%) | 30 (26%) |
| Intermediate | 14 (70%) | 6 (35%) | 45 (38%) |
| Early Intermediate | 4 (20%) | 1 (6%) | 21 (18%) |
| Beginning | 0 (0%) | 1 (6%) | 9 (8%) |

According to the table above, 66% of our ELs are at the Early Intermediate to Intermediate level. Their English language skills are comparable to those of first and second graders. Clearly these students will need much scaffolding to be able to justify and critique their own, and others mathematical reasoning.

CST English Language Arts % of Students at or Above Proficient 2009-2013

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 |
| District Target for Hillside EL | 56.8% | 67.6% | 78.4% | 89.2% |
| Hillside EL learners | 34.5% | 38.8% | 38.3% | 29.2% |

As the table above shows there was only one year in that five-year span where our ELs made slight progress. That slight progress was then followed by two years of decline. Also apparent in this table is how the gap kept growing between where the district expected all of our students to be performing and where our English learners where at. With my leadership project I hope to address that widening gap in math but I also hope to impact this gap in English language arts by incorporating writing into the math intervention I will be presenting to our staff.

As baseline data for my project I will not be using CST data, since our school district will no longer be participating in the CSTs. A combination of modified word problems taken from the appendix to our Envision Math program given out by the district, that are supposed to be aligned with the CCSS, will serve as short-term, formative assessments. I will be using the first performance assessment given by the district during the first semester as baseline data.

Formative assessments from the appendix book will be given throughout the intervention as part of the PDSA cycle to see where changes need to be made. These ongoing assessments will also serve as short-term data. As more long-term data, the second performance assessment given by the district the second semester will serve to see if my leadership project is being effective in helping ELs access the standards. These new performance assessments are aligned with the coming Common Core Standards and the Smarter Balance assessments that will eventually be made public.

In conclusion, I would like to point out something positive the data shows. According to the data, from 2009 – 2012, at my school site we had 10% more ELs at or above proficient when compared to the district average. This isn’t necessarily something to celebrate since even in our best year in that four-year span only half of our ELs were at or above proficient. This compilation of data and what it tells is one of the major reasons my leadership project will focus on the EL population in the area of math. They have been an underserved population throughout the district and at my school site. Hopefully I can help close the gap the CCSS might further exacerbate.

**Part IV: Learning Cycle Plan**

**Part A:**

My leadership project is an improvement project. The goal of my project is to increase the math word problem solving abilities of EL learners. This will be done using a three-phase structure lesson endorsed and presented by LAUSD to CCSS local school leadership teams in district provided professional developments.

This three-phase structure will be modified to specifically aid EL learners by adding a 5-step math word problem solving strategy to the first phase of the lesson. This strategy will help EL learners do a systematic, close reading of a word problem to help them set up a plan to come up with a solution to the word problem. A template a colleague of mine and I created and improved during the 1st PDSA will be given to the students to help them organize what the strategy asks them to do.

There are several ways we will know if progress has been made. The template mentioned above will be scored by two different teachers using a rubric, to ensure rater reliability. Actionable feedback will also be provided to the students based on the rubric and template they turn in. This actionable feedback is intended to help the students become more proficient at solving the assigned word problems. The scores given to students will be compared to see if progress is being made.

However, the main instrument we will use to measure whether progress has been made by EL learners will be the Performance Assessments LAUSD will ask all students to take twice this school year, 2012-2013. As with the templates, both assessments will be scored during grade level meetings by two different teachers, using the district provided rubrics, to ensure rater reliability.

Progress will also be measured using surveys teachers will fill out monthly to gauge how often, how effective, and how comfortable they are using the three-phase structure lesson presented to them at the professional development. The survey will ask three questions: How often did you use the three-phase structure lesson this month? How effective do you think your lessons were? How comfortable were you using the three-phase structure lesson? We will know whether progress has been made if teachers are using this three-phase structure lesson at least once per week. We will also know whether progress has been made if they feel more effective and more comfortable as they use this three-phase structure.

A graphic organizer is attached to this document to clarify the relationship between my planned actions and outcomes.

**Part B:**

A timeline is provided that will outline all the specifics of my leadership project. Note the first round of actions is concluding. This first round involved a 5th grade teacher and myself working with an after-school intervention class. In this first round, the three-phase, 5-step math word problem solving lesson, rubric, and template were the focus of improvement. This first round has, in fact, allowed a colleague of mine and myself to improve the lesson format, the rubric, and the template that will be used in the second round of actions.

The second round of actions will now begin to focus in earnest on student improvement. This second round again involves the same 5th grade teacher and myself working with *our assigned classes*. This second PDSA cycle will start in January. The short term outcome will focus around the scores students will be given on the templates they will complete during each lesson, at least once per week. The long-term outcome will focus around the Performance Assessments that will be given by LAUSD twice this school year.

With the data and experiences gathered from these first two PDSA cycles a PD will be prepared that will be presented to the *4th grade and SDC teachers,* to extend the scope of this leadership project. Lessons will be modeled by myself and my colleague in various classrooms to help teachers visualize what this modified three-phase structure lesson might look like in their classrooms in hopes of encouraging them to buy-in to this EL intervention strategy and to begin using it in their classrooms at least once per week.

Two teachers together will be scoring all assessments and templates to ensure rater reliability. I have spoken to the principal, banked time grade level meetings will be provided on a regular basis to facilitate team scoring all student work. Rubrics will be used to further ensure that all scores given to students will be valid and reliable.

Survey questions will be used to measure progress and improvement from the teachers’ perspectives. These questions will help my team measure how comfortable and how effective we feel we are being with the implementation of this intervention strategy. All data gathered will be charted and graphed to help the team visualize our progress or lack thereof, and thus allow for further improvements to be made.

Classroom walkthroughs will complete the triangulation of data to see if the leadership project is being effective and progress is being made. My principal and myself will conduct classroom walkthroughs looking for evidence of implementation of the intervention strategy. Checklists will be used in these walkthroughs to ensure that valid and measurable observations are being made.

There are some ethical considerations surrounding my leadership project. I need to ensure that all data gathered on students is kept safe and secure. I also need to ensure that all data gathered is used for the sole purpose of ensuring that all students, but especially EL students become more proficient at solving math word problems. Since implementation of this three-phase structure is part of what the district is asking all schools to do, parent notification is unnecessary since it is supposed to be part of our regular math curriculum. I do plan to make teachers aware of my leadership project as part of the ethics surrounding it.

**Timeline:**

|  |  |
| --- | --- |
| Date: | Activity: |
| November 19, 2013 | Meet with 5th grade teachers in grade level meeting to introduce 5-step math word problem solving model to incorporate into three-phase structure lesson. We will begin this scaffold with the 5th grade afterschool intervention class. Design the template for students to use and the rubric to be used to score students. Design the lesson format to be used. Create word problems to assess students based on tasks from the District’s Performance Assessments. |
| November 20, 2013 | Assess intervention students using four teacher created word problems (similar to the Performance Assessments to be given out by the district) to get baseline data for 1st PDSA cycle. |
| December 3, 2013 | Score pre-assessments. Develop teacher surveys to gauge effectiveness of intervention to be given at the end of the intervention sessions. |
| December 2, 2013 – December 11, 2013 | Begin intervention class using the three-phase structure lesson format and incorporating the *6*-step math word problem-solving model. Provide students with the template so they can work out the word problem. These will be used to provide actionable feedback to help students improve. |
| December 11, 2013 | Assess students to see if any progress was made by comparing results to baseline data. 1st PDSA cycle ends. Other data includes teacher surveys that measure how effective and how comfortable teachers are using this lesson format. |
| December 17, 2013 | Grade level meeting with 5th grade teachers to grade assessments to ensure rater reliability. Compare results to pre-assessment to see if any improvement was made and to see what changes need to be made to the lesson format and 5-step word problem solving model for 2nd PDSA cycle using third and fourth grade intervention students beginning January of 2014. |
| January 14, 2014 | Debrief with 5th grade intervention team during grade level meeting to go over results/data of first PDSA cycle. Discuss changes that will be incorporated as a result of the data from the first PDSA cycle. Including data from surveys the 5th grade teachers will fill out. |
| Week of January 14, 2014 | 1st semester District Performance Assessment given to be used as baseline data to observe long term outcomes in 4th, 5th, and SDC classes. This baseline data will be compared to the results from the 2nd semester Performance Assessment to be given in May. |
| January 21, 2014 | *Meet with 5th grade teachers in a grade level meeting to review 5 step math word problem solving strategy, template, and rubric*. Discuss any modifications that will be implemented as a result of the 1st PDSA cycle. |
| January 22, 2014 | Begin 2nd PDSA cycle *in both 5th grade classes* by introducing students to the three phase structure lesson format, the five-step math word problem solving model, the template and rubric we will be using. *Lessons will be conducted three times per week for three weeks, and then students will be assessed to measure growth* |
| February 19, 2014 | Assess *5th grade classes* to measure progress. Meet with my colleague to discuss changes to lesson format based on data. |
| February 4, 2014 | Present all components of leadership project to *4th grade and SDC teachers*, including data from 1st and 2nd PDSA cycle, to get them ready to implement three-phase structure, *6*-step word problem-solving lessons at least once per week in their classrooms. *Teachers fill out surveys for the first time.* |
| February 10, 2014 | Model lesson *in my* classroom *for 4th and SDC teachers, principal will also be there.* |
| February 11, 2014 | Model lesson in *Ms. Rubio’s room* grade *so that teachers can observe two different teachers implementing the intervention.* |
| Week of February 17, 2014 | 3rd PDSA cycle begins in *4th, grade and SDC classrooms*. They then begin implementing lessons at least once per week. I will observe implementation of lessons by shadowing the principal whenever possible. Gather observational data using a checklist to ensure validity and reliability across classrooms. |
| Week of March 31, 2014 | Assess students in 3rd PDSA cycle to measure progress, using questions similar to those from the second district Performance Assessment. Meet as a team to discuss results and any changes for a possible 4th PDSA cycle. |
| April 1, 2014 | Grade level meeting with team to grade assessments to ensure rater reliability based on the rubric. Teachers fill out surveys to see how often they have used the strategies and how many lessons they have conducted with their students. Go over observation data. Discuss implications and changes that need to be made for next improvement cycle. |
| Week of April 7, 2014 | *Continue instruction by beginning 4th PDSA cycle in 4th, 5th, and SDC classes with any modifications necessary based on previous improvement cycles.  Baseline data will consist of 1st Performance Assessment. This cycle will continue until the second district Performance Assessment in May.* |
| May 2014 | 2nd semester District Performance Assessment administered. Compare results to the Performance Assessment taken in January to see if progress has been made. |
| May 2014 | Grade level meeting with team to compare results of both district Performance Assessments to see if there was any improvement. Compare EL students and to EO students and RFEP students to compare progress. |