PROPOSAL COVER PAGE
NEVADA SYSTEM OF HIGHER EDUCATION
NeCoTIP

Applicant Information:
Institution of Higher Education:
Board of Regents, NSHE obo University of Nevada, Las Vegas

Project Director: Janelle M. Bailey, Ph.D.

Telephone: 702-895-4756 E-Mail: janelle.bailey@unlv.edu

Address: 4505 S. Maryland Pkwy, Box 453005 City: Las Vegas NV Zip Code: 89154-3005

PROJECT
Title: _Biology and English Language Arts: Interdisciplinary Partnerships for Achievement_

Discipline(s) involved: English Language Arts (English I) and Science (Biology)

Project Type: Pre-service ______ In-Service ___ X ___

Estimated No. of Teacher/Student Participants _11 / 600_ Grade Levels _9th___
Contact Hours _35+_ Credit Hours (if any): Graduate _____ Undergraduate ______

Main activities: Initial training workshop for project team; five professional development days for teacher-participants; creation and implementation of integrated 9th grade English and Biology units to support CCSI ELA technical standards; creation of Integrative Learning Center for supporting student success in integrated units

BUDGET
Requested NeCoTIP Funds $ 62,031
Estimated NeCoTIP Cost per Teacher Participant $ 5,639

COLLABORATING ORGANIZATIONS (School Districts, Other Agencies and Representatives)
CCSD, specifically Bonanza High School and Curriculum and Professional Development Division; UNLV College of Education; UNLV College of Sciences

CERTIFICATION AND ENDORSEMENT
The institution certifies the accuracy of the information in this proposal, and assures that the program and financial conditions stated in the proposal will be completed as proposed.

X Janelle M. Bailey 11/14/2011
Project Director Date

X Daniel Paul 11-14-2011
Sponsored Programs Office Date
Biology and English Language Arts: Interdisciplinary Partnerships for Achievement

(BELA IPA)

ABSTRACT

This proposal describes a process to identify and address needs relating to the implementation of Common Core State Standards within a small high school community through an interdisciplinary collaboration between English Language Arts (ELA) and Science. The collaboration would entail several Professional Development (PD) days to develop a program that will install the “Literacy in Science Standards” as outlined by the CCSSI document. This project includes 9th grade teachers at Bonanza High School of Clark County School District (CCSD) who teach English I or Biology; this would encompass the instructor base for the entire 9th grade student population, as both courses are required. First, project team leaders will attend a summer institute to identify techniques within CCSSI implementation. The team leaders will then lead professional development days to outline techniques of CCSSI implementation in an integrative fashion. In subsequent PD days, participating teachers will plan an engaging and appropriate unit that will integrate English and Biology. This appropriately aligned unit will span up to a month and culminate with an ending authentic assessment (essay, research project, etc.) as agreed upon by the teachers during the collaboration. During the unit period, an after-school Integrative Learning Center will be open at least three times per week, allowing student access to both English and Biology teachers as well as a computer. The grant would supply two additional “rounds” of collaboration within the 2012-2013 school year, leading to the creation of multiple interdisciplinary units and culminating assessments. This collaboration can serve as a pilot-program if success within the community is established by both achievement of the students within the unit period and positive response to teacher collaboration.
Cooperative Planning

Nevada is embarking on a new world with the implementation of the Common Core State Standards Initiative (CCSSI). The CCSSI are being implemented gradually in Nevada, starting in the 2011-2012 academic year, culminating in their full implementation in 2014-2015 (www.doe.nv.gov). Justifications of implementing CCSSI state that the “ideal result of standards…will be to move classroom teaching away from a focus of worksheets…toward an engaging challenging curriculum” (Conley, 2011). English Language Arts (ELA) standards will be fully implemented in K-12 during 2012-2013. The CCSSI ELA standards and implementation stand in stark contrast to current practices in Nevada, and meaningful implementation of the standards should concurrently initiate a professional development surge to allow the teachers to be comfortable with the changes and enable them to teach with the standards appropriately.

Bonanza High School (BHS), a large urban high school in Las Vegas, has shown a drastic decrease in their success rate of English Language Arts in both the Adequate Yearly Progress and the Nevada High School Proficiency Exam (see Figure 1 and Appendix). With the upcoming implementation of CCSSI ELA standards and continued struggles in science, this school is in need of professional development to implement the standards successfully. This interdisciplinary project (BELA IPA) will create a partnership between English I and Biology teachers (both offered to 9th grade students) in order to help increase understanding of and support around the new ELA standards that relate to technical reading and writing.
In order to help BHS undergo a successful implementation of the CCSSI ELA standards, the school will partner with UNLV faculty to create a professional development (PD) program that is based upon best practices as described in research literature. PD that leads to increases in student achievement has been found to include five key components of implementation (Desimone, 2009). The first component, content focus, expresses the need for PD to deliver training addressing specific content rather than general content knowledge. A specific content focus allows the teacher to gain minimal, but long-term, knowledge to add to their practices. Content focus has been deemed the most influential component of PD success. In this project, the focus on content-specific training will be implemented by a collaboration of BHS Biology and English teachers, enabling them to elucidate the commonalities and differences between their content areas. The second component, active learning, allows teachers to engage in the content meaningfully. Active learning will benefit both English and Biology teachers, and the PD will create opportunities to demonstrate practices in both content areas and how they may be similar or different. Coherence is the third component of successful PD. In order for the teacher to embrace the content long term, there must be a correlation between teacher prior knowledge and the acquisition of the new content knowledge. Duration, the fourth component, involves the need
for PD to be an appropriate length for the PD to be successful. Summer institutes have classically not been seen as being insufficient in duration to bring about change. However, due to time constraints during the school year, summer institutes end up being the most popular. When paired with ongoing, follow-up PD throughout the year, summer institutes can be effective (Greenleaf et al., 2011). The hypothesized duration of an effective PD program has been found to be range from a semester to a full year in length. Collective participation, the final component, allows for the participation of a small group of teachers (either by discipline or school) to create a hospitable discourse community that supports the implementation of the PD content (Desimone, 2009).

The BELA IPA project’s collaborative unit consists of the following partners.

1. **UNLV College of Education (COE).** Project director Dr. Janelle Bailey and doctoral student and BHS biology teacher Nicole Espinoza will lead the design and implementation of the BELA IPA project. Dr. Bailey will manage the project (including the budget) and supervise Mrs. Espinoza and a doctoral GA to organize the PD activities. The COE needs addressed by this project include developing a better understanding of the new CCSSI ELA standards, especially those relating to science, and an opportunity to collaborate on a school-based project to improve student achievement.

2. **UNLV College of Sciences (COS).** College of Sciences faculty Dr. Megan Litster will lead the efforts to establish meaningful scientific content knowledge for the English and Biology teacher-participants. As a biology educator with both science and education training, Dr. Litster will play a crucial role in helping the teacher-participants create integrative, interactive unit plans. The COS needs addressed by this project include a need to have better-prepared students who enroll
in UNLV science courses after high school and a desire to support teachers in more effective content preparation and instruction.

3. Clark County School District (CCSD). Within CCSD, there are four groups of people who will contribute to this project’s successful implementation.

   a. Two Curriculum and Professional Development Division (CPDD) facilitators will provide assistance in designing and conducting the PD activities, ensuring alignment with CCSD standards of professional development and the relevant CCSSI ELA and science content standards. They will need the support of the CPDD management to produce school-specific professional development days. CPDD’s needs that are addressed by this project include support to offer PD in a new area, especially as supported by UNLV content faculty, and to support teachers in implementing CCSSI ELA standards for literacy in technical subjects (here, science).

   b. BHS Administrators will have a crucial role in determining the success of the BELA IPA project. They will contribute to the project by encouraging the participation of English and Biology teachers in receiving targeted PD through this project. Furthermore, they will observe the teachers during implementation units to provide data for one measure of the units’ effectiveness. The BHS administration’s primary need addressed by this project is the effective implementation of CCSSI ELA standards through targeted school-based PD.

   c. BHS Biology and English teachers will have the most important role in the project, as they will have to implement the PD content in such a way that maximizes student learning. They will work as an interdisciplinary team of teachers to create three integrative units that focus on ELA technical reading/writing standards. Teachers’ needs that are addressed by this project include increased understanding of the CCSSI ELA technical standards relating to science;
science content knowledge for topics of interest; and understanding and support for the integration of units.

d. BHS 9th grade students have a role in creating a successful understanding of the topics, as demonstrated through multiple assessment techniques. Their needs include mastery of the ELA technical standards and of relevant science standards.

4. Evaluator. An evaluator to be named later (most likely from UNLV’s Department of Educational Research, Cognition, and Development) will determine the effectiveness and impact of the project.

Objectives and Anticipated Outcomes

We have defined seven project objectives for this project (see Evaluation section for related measurable outcomes).

1. To create a scaffolded PD project related to the CCSSI Standards and Nevada State Science Standards for an initial introduction the integration of technical ELA and science standards.

2. To facilitate successful collaborations in order to create three integrative units aligning to the CCSSI ELA technical and science standards.

3. To implement the three integrative units in English I and Biology classes during the 2012-2013 school year.

4. To create an Integrative Learning Center where students can receive assistance to complete their work successfully.

5. To improve content-specific student self-efficacy in both English and Biology disciplines.

6. To improve teacher self-efficacy in their ability to teach integrative units.

7. To develop the teachers’ ability to create, implement, and revise subsequent integrative units.
The anticipated outcomes will address two target audiences: students and teachers. For both, there should be an increase in content knowledge and comprehension of both disciplines, as well as an increase in self-efficacy relating to the content. For students, there should also be an increase in writing skills as aligned by the CCSSI ELA technical writing standards as measured through a variety of assessment methods.

**Activities**

The BELA IPA project includes three major types of activities. The first is a local commercial workshop on the implementation of the CCSSI, that will be attended by the project team in April 2012 (see http://bit.ly/s9iHsX for details). The purpose of this is to maximize the project team’s understanding of CCSSI and to gain resources that can be used within the BHS PD offerings. Those PD offerings comprise the second type of activity. Five full-day PD sessions will be offered at BHS over the course of the year. These will focus on understanding the CCSSI technical standards relating to science and relevant science content standards, creating integrated biology/ELA units, and evaluating the implementation of said units. Finally, the implementation itself, which includes both in-class teaching activities and the creation and running of an Integrative Learning Center (ILC), is the third activity type. Each of these is broken out in further detail in Appendix B.

*Standards Aligned.* In the integrative units that will be developed, the teachers are given the freedom to implement the main topic; however, the lesson plan objectives of the two disciplines must be taken into account. For example, the first unit should include topics associated to the syllabi in the first quarter of each discipline. A proposed topic could be human diseases, with the use of a research writing standards; while the third unit could be environmental, using the persuasive writing standard. All integrative units will need to be
strategically aligned to assist in all standards represented for each discipline. Additionally, the
grant will allow the teachers to implement one science non-fiction novel through within one of
the units. The novel will be appropriate to CCSD practices and align with the CCSSI ELA
technical standards and the Nevada science standards.

Technology Component. Technology will be a large component in the implementation
plan, as the assessments may be paper based or electronic based (multiple-choice quiz vs.
research essay). In addition, a requirement of research will allow the students to explore the
internet in the pursuit of meaningful, scholarly science and ELA text. The technology component
will be housed within the Integrative Learning Center, without additional monetary or equipment
resources from the grant.

Achievement or Impact of Similar Current/Previous Projects

There are no previous projects relating to this proposal.

Replication and Dissemination

This project will serve as a pilot program within CCSD. With the interaction of the
CPDD, the project may serve as a model PD program for other CCSD secondary schools. The
integrative team of teachers, UNLV faculty, and CPDD facilitators will culminate their
experience in a final PD day that will allow for replication of this pilot project to be implemented
on a broader scale. With successful integrative units, the project could extend into Summer 2013
to create a subsidiary text or website to help with integration and CCSSI technical standards
implementation. Additionally, a larger study utilizing the integration text could possibly
established in subsequent years of the CCSSI implementation, as well as with the Next
Generation Science Standards current in development.

Evaluation
The evaluation of the BELA IPA project is described in Table 2 below. In it, we list each measurable objective followed by details about the specific NeCoTIP evaluation questions.

Table 2. Evaluation matrix for the BELA IPA project.

| Measurable Objective 1: To create a scaffolded PD project related to the CCSSI Standards and Nevada State Science Standards for an initial introduction the integration of technical ELA and science standards. |
| --- | --- | --- | --- | --- |
| Project Team (Bailey, Espinoza, Litster, CPDD facilitators, BHS Principal, BHS English leader) | Artifacts from BELA IPA project planning and activities | Evaluator in conjunction with Project Director Bailey | At the end of each PD day, as well as a culminating survey of the success of the PD at the end of the year | Evaluator |

| Measurable Objective #2: To facilitate successful collaborations in order to create three integrative units aligning to the CCSSI ELA technical and science standards |
| --- | --- | --- | --- | --- |
| English and Biology Teachers | Rubric of Effective Lesson Plans & Standards | BHS Administration, Project Director Bailey, COS partner Litster | Before every unit for approval | BHS Administration, Espinoza |

| Measurable Objective #3: To implement the three integrative units in English I and Biology classes during the 2012-2013 school year. |
| --- | --- | --- | --- | --- |
| BHS 9th Grade Students | Pre-Assessment, Formative Assessments, Post Summative Assessment | Teachers | During all three integrative units | Common data analysis by Project Director Bailey, Espinoza, and Evaluator |

| Measurable Objective #4: To create an Integrative Learning Center where students can receive assistance to complete their work successfully. |
| --- | --- | --- | --- | --- |
| Teachers and Students | Daily Attendance, Surveys and Observations | Teachers | During all three integrative units | Project Director Bailey, Espinoza, and Evaluator |

| Measurable Objective #5: To improve content-specific student self-efficacy in both English and Biology disciplines. |
| --- | --- | --- | --- | --- |
| Students | Surveys | Evaluator | During all three integrative units | Evaluator with assistance from Project Director Bailey, Espinoza, and COS partner Litster |

| Measurable Objective #6: To improve teacher self-efficacy in their ability to teach integrative units. |
| --- | --- | --- | --- | --- |
| Teachers | Surveys | Evaluator | End of each integrative unit | Evaluator with assistance from Project Director Bailey and Espinoza |

| Measurable Objective #7: To develop the teachers’ ability to create, implement, and revise subsequent integrative units. |
| --- | --- | --- | --- | --- |
| Teachers | Surveys and Observations | Administration, Project Director | End of each integrative unit | Project Director Bailey and Espinoza |
Appendix A: AYP Reports of Bonanza HS as Provided by Principal
BONANZA HS AYP Trends

2010-11 AYP Designations

Student Demographics

Average Daily Attendance

[Bar charts showing demographic and attendance trends from 2006-07 to 2010-11]
### Appendix B: Detail of Project Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Frame</th>
<th>Time Allotted</th>
<th>Staff Person Responsible</th>
<th>Attendance (Target Population)</th>
<th>Purpose</th>
<th>Measurable Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Development through Implementing CCSS Conference</td>
<td>April 2012</td>
<td>3 Day Conference</td>
<td>Project Directors: Dr. Bailey and Dr. Litster</td>
<td>Project Team (Dr. Bailey, Dr. Litster, BHS Principal, English Department Chair, Biology Teacher and 2 CPDD personnel)</td>
<td>This professional development will allow main project team to understand the implementation procedures of CCSSI in secondary school level, specifically focusing on Technical Standards.</td>
<td>The project team can develop a well-informed introductory professional development day to teach proper implementation of CCSS Standards.</td>
</tr>
<tr>
<td>Professional Development Day 1</td>
<td>Early September 2012</td>
<td>1 teacher day (7am-1:16pm)</td>
<td>Project Team</td>
<td>Project Team, Teacher Team (5 Biology Teachers, 5 English I Teachers)</td>
<td>The project team will prepare the professional development day, based upon their institute experience in the successful implementation of the CCSSI document.</td>
<td>The English and Biology teachers will be required to utilize their new knowledge of the standards to come up with possible integrative lessons for the two disciplines to be included in the second PD day.</td>
</tr>
<tr>
<td>Professional Development Two</td>
<td>Late September 2012</td>
<td>1 teacher day (7am-1:16pm)</td>
<td>Project Team</td>
<td>Project + Teacher Team</td>
<td>The 10 teachers will bring together an integrative unit that encompasses Nevada State Standards as well as ELA CCSS Technical Standards.</td>
<td>Observation of successful implementation of the standards as described by PD Day One.</td>
</tr>
<tr>
<td>Integrative Learning Center</td>
<td>Throughout Each Unit</td>
<td>After school hours (1:30pm-2:30pm)</td>
<td>1 English I Teacher + 1 Biology Teacher per day</td>
<td>9th Grade Students</td>
<td>This learning center will be held in a computer lab to help with the lack of student resources. The teachers can help the students with their written or graphical parts of their project as well as research for the integrative unit.</td>
<td>Attendance of students in center, observations of students in attendance, and ending student reflections</td>
</tr>
<tr>
<td>Integrative Unit One Implementation</td>
<td>October 2012 to November 2012</td>
<td>2 weeks to 4 week</td>
<td>Teacher Team</td>
<td>9th Grade Students</td>
<td>The first integrative unit will show the success of student comprehension in both English and Biology disciplines.</td>
<td>Pre-assessment, several formative assessments (labs, reading, discussions, and papers), ending summative assessment (project, paper, etc.) established by</td>
</tr>
<tr>
<td>Professional Development Day Three</td>
<td>Early January 2013</td>
<td>1 teacher day (7am-1:16pm)</td>
<td>Project + Teacher Team</td>
<td>Project + Teacher Team</td>
<td>This professional development day will develop the new topic and any revisions that the teachers had at the end of Integrative Unit One.</td>
<td>Evaluation and critique of first integrative unit to develop and make improvement on the structure of the second integrative unit.</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------</td>
<td>-----------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Integrative Unit Two Implementation</td>
<td>January 2013-February 2013</td>
<td>2 weeks to 4 week</td>
<td>Teacher Team</td>
<td>9th Grade Students</td>
<td>The third integrative unit will show the continued success of student comprehension in both English and Biology disciplines.</td>
<td>Pre-assessment, several formative assessments (labs, reading, discussions, and papers), ending summative assessment (project, paper, etc.) established by teachers.</td>
</tr>
<tr>
<td>Professional Development Day Four</td>
<td>Mid-April 2013</td>
<td>1 teacher day (7am-1:16pm)</td>
<td>Project + Teacher Team</td>
<td>Project + Teacher Team</td>
<td>This professional development day will develop the new topic and any revisions that the teachers had at the end of Integrative Unit Two.</td>
<td>Evaluation and Critique of Second Integrative Plan to develop and make improvement on the structure of the third development plan.</td>
</tr>
<tr>
<td>Implementation of Integrative Unit Three</td>
<td>May 2013</td>
<td>2 weeks to 4 week</td>
<td>Teacher Team</td>
<td>9th Grade Students</td>
<td>The third integrative unit will show the continued success of student comprehension in both English and Biology disciplines.</td>
<td>Pre-assessment, several formative assessments (labs, reading, discussions, and papers), ending summative assessment (project, paper, etc.) established by teachers.</td>
</tr>
<tr>
<td>Professional Development Day Five</td>
<td>Late May 2013</td>
<td>1 teacher day (7am-1:16pm)</td>
<td>Project + Teacher Team</td>
<td>Project + Teacher Team</td>
<td>Culminating Experience: Evaluation and Revision of all units; Discussion of strengths of each unit; Discussion of Replication in other schools or at a middle school level.</td>
<td>Ending Inventory and Evaluation Survey</td>
</tr>
</tbody>
</table>

15
References

2010-2011 Bonanza High School Accountability Report. Retrieved from
http://ccsd.net/schools/acc_pdfs_2011/452.pdf

Common Core State Standards Initiative English Language Document. Retrieved from
http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf


Desimone, L. M. (2009). Improving impact studies of teachers’ professional development:

Greenleaf, C. L., Litman, C., Hanson, T. L., Rosen, R., Boscardin, C. K., Herman, J., &
Schneider, S. A. (2011). Integrating literacy and science in biology: Teaching and
learning impacts of reading apprenticeship professional development. American
Project Title: Biology and English Language Arts: Interdisciplinary Partnerships for Achievement (BELA IPA)
Project Director: Janelle M. Bailey, Ph.D., UNLV College of Education

<table>
<thead>
<tr>
<th>Internal Use only:</th>
<th>NeCoTIP REQUEST</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Partner A</td>
<td>Partner B</td>
</tr>
<tr>
<td></td>
<td>36.65%</td>
<td>7.46%</td>
</tr>
<tr>
<td>Name: UNLV College of Education</td>
<td>Organization</td>
<td>Name: UNLV College of Sciences</td>
</tr>
</tbody>
</table>

If you have more than three partnerships, please use additional sheets

1. SALARIES AND FRINGE
A. PROFESSIONAL
(List each separately with title)

<table>
<thead>
<tr>
<th>NeCoTIP funded person mos.</th>
<th>CAL</th>
<th>ACAD</th>
<th>SUMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bailey, Janelle</td>
<td>0.5</td>
<td>$3,387</td>
<td></td>
</tr>
<tr>
<td>Espinoza, Nicole</td>
<td>1.5</td>
<td>$2,500</td>
<td></td>
</tr>
<tr>
<td>Litster, Megan</td>
<td>0.5</td>
<td>$3,166</td>
<td></td>
</tr>
<tr>
<td>evaluator to be named</td>
<td>0.15</td>
<td></td>
<td>$2,500</td>
</tr>
</tbody>
</table>

B. CLASSIFIED
C. STUDENT
D. CONSULTANT
E. OTHER (LIST INDIVIDUALLY IN BUDGET JUSTIFICATION) $11,950
F. FRINGE $942 $507 $359 $400

TOTAL SALARY & FRINGE (A:F) $6,829 $3,673 $12,309 $2,900 $24,876

2. TRAVEL
A. IN-STATE
B. OUT-OF-STATE

TOTAL TRAVEL $0.00 $0.00 $0.00 $0.00 $0.00

3. OPERATING
A. OFFICE copying/supplies/expenses (for special purposes only) $200
B. INSTRUCTIONAL
C. EQUIPMENT
D. PRINTING $500
E. OTHER (EXPLAIN IN BUDGET JUSTIFICATION) $5,553 $18,000

TOTAL OPERATING $6,053 $0 $18,200 $0 $24,353

TOTAL (1+2+3) $12,882 $3,673 $30,509 $2,900 $49,963
TOTAL INDIRECT (UNLV 26%, CCSD 1.67%) $9,849 $955 $509 $754 $12,068

TOTAL COSTS $22,731 $4,627 $31,018 $3,654 $62,031

Special Rule - No single partner in an eligible partnership may use more than 50% of the funds made available to the partnership under this section.
Budget Justification

Partner A: UNLV College of Education

1. Salaries and Fringe
   A. Professional
      a. Salary for Project Director Bailey is provided at 0.5 months of her annual salary ($60,965 / 9 mos. * 0.5 mo. = $3387).
      b. Salary for Doctoral Student Espinoza is provided at 1.5 months of a doctoral GA rate ($15,000 / 9 mos. * 1.5 mo. = $2500).
   B. No funds are requested for Classified salaries.
   C. No funds are requested for Student salaries.
   D. No funds are requested for Consultant salaries.
   E. No funds are requested for “Other” Salaries.
   F. Fringe is calculated at the rate of 16% for summer salary.

2. No funds are requested for travel.

3. Operating
   A. No funds are requested for Office Supplies.
   B. No funds are requested for Instructional Supplies.
   C. No funds are requested for Equipment.
   D. Printing - $500 is requested to cover printing for professional development sessions.
   E. Other
      a. Project team leaders will attend “Annual Conference on Common Core Standards and Assessment,” held April 16-18, 2012, in Las Vegas. Conference registration is $579 when taking teams of five or more members. Registration cost is included here for seven (7) project team leaders – Bailey, Espinoza, Litster, and four CCSD personnel (7 personnel @ $579 each = $4053).
      b. Funds are requested for lunch and water on professional development days. These will be working lunches, providing opportunities for the participating teachers and team leaders to continue their collaborative planning. Cost is estimated at (15 people @ $20/person for 5 days = $1500).

Modified total direct costs are all costs EXCEPT equipment (no equipment in this budget). An Indirect Rate of 26% (off-campus) is used for Partner A plus the first $25,000 of any subcontract, here Partner C (CCSD).

Partner B: UNLV College of Sciences

1. Salaries and Fringe
   A. Professional
      a. Salary for Litster is provided at 0.5 months of her annual salary ($56,978 / 9 mos. * 0.5 mo. = $3166).
   B. No funds are requested for Classified salaries.
   C. No funds are requested for Student salaries.
   D. No funds are requested for Consultant salaries.
   E. No funds are requested for “Other” Salaries.
   F. Fringe is calculated at the rate of 16% for summer salary.

2. No funds are requested for travel.

3. No funds are requested for operating costs.

Modified total direct costs are all costs EXCEPT equipment. An Indirect Rate of 26% (off-campus) is used for Partner B.
Partner C: Clark County School District
1. Salaries and Fringe
   A. No funds are requested for Professional salaries.
   B. No funds are requested for Classified salaries.
   C. No funds are requested for Student salaries.
   D. No funds are requested for Consultant salaries.
   E. Other
      a. Pay to cover substitutes for professional development days (5 days @ $90/day, 10 teachers = $4500).
      b. Pay to cover substitutes for April training institute (3 days @ $90/day, 3 teachers = $810).
      c. After-hours pay for teachers to work at Writing Center (120 hours @ $22/hr = $2640).
      d. Stipends for principal, ELA leader, and two CPDD personnel (4 personnel @ $1000 each = $4000).
   F. Fringe is calculated at the rate of 3% for summer salary.
2. No funds are requested for travel.
3. Operating
   A. A small amount is requested for office supplies to support the Integrative Learning Center ($200).
   B. No funds are requested for Instructional Supplies.
   C. No funds are requested for Equipment.
   D. No funds are requested for Printing.
   E. Other
      a. We anticipate that one of the units developed with involve students reading a science-related text. This would require a copy of the text for every 9th grade student. Costs are estimated at (600 books (1 per student) @ $30/book = $18,000).

Modified total direct costs are all costs EXCEPT equipment. An Indirect Rate of 1.67% is used for Partner C.

Partner D: Evaluator
1. Salaries and Fringe
   A. Professional
      a. A stipend of $2500 is provided for the evaluator, estimated at 0.15 FTE.
   B. No funds are requested for Classified salaries.
   C. No funds are requested for Student salaries.
   D. No funds are requested for Consultant salaries.
   E. No funds are requested for “Other” Salaries.
   F. Fringe is calculated at the rate of 16% for summer salary.
2. No funds are requested for travel.
3. No funds are requested for operating costs.

Modified total direct costs are all costs EXCEPT equipment. An Indirect Rate of 26% (off-campus) is used for Partner D.
JANELLE M. BAILEY

University of Nevada, Las Vegas
4505 S. Maryland Parkway, Box 453005
Office 702-895-4756
janelle.bailey@unlv.edu

Department of Teaching & Learning
Las Vegas, NV 89154-3005
Mobile 702-513-8763
Fax 702-895-4898

EDUCATION

May 2006 Ph.D., Teaching and Teacher Education, University of Arizona, Tucson, AZ
June 1997 M.Ed., Science Education, University of Georgia, Athens, GA
May 1994 B.A., Astrophysics (minor in Mathematics), Agnes Scott College, Decatur, GA

CURRENT PROFESSIONAL POSITION

2006-present University of Nevada-Las Vegas, Las Vegas, NV
Assistant Professor, Dept. of Teaching & Learning (formerly Curriculum & Instruction)
Assistant Director, Center for Mathematics, Science, & Engineering Education
Teach undergraduate and graduate courses in science education. Conduct research on
science education, specifically in the areas of student misconceptions in astronomy
and science teacher professional development. Advise students in the M.S./M.Ed. and
Ph.D./Ed.D. programs in science education.

SELECT REFEREED PUBLICATIONS AND PRESENTATIONS

Properties Concept Inventory. International Journal of Science Education, iFirst. doi:
10.1080/09500693.2011.589869

12-17.

leaders through long-term professional development: A cross-case analysis of four teachers, accepted
for 85th International Conference of the National Association of Research in Science Teaching,
Indianapolis, IN, March.

research study, accepted for Association for Science Teacher Education 2012 International
Conference, Clearwater Beach, FL, 5 January.

SELECT FUNDED GRANTS

♦ Using the Big Ideas in Cosmology to Teach College Students: Curriculum Development
L. Cominsky (PI, Sonoma State U), J. M. Bailey (Co-PI), K. A. Coble (Co-PI, Chicago State U), K.
M. McLin (Co-PI, SSU), A. J. Metevier (Co-PI, SSU); $499,596 total; $67,412 to UNLV through
subcontract – March 1, 2010 to June 30, 2013; Proposal funded by NASA’s Research
Opportunities in Space and Earth Science – Opportunities for SMD Education and Public
Outreach on 11/10/2009

♦ The Nevada Mathematics and Science Leadership Cadre
J. M. Bailey (PI), E. C. Keppelmann (Co-I, U Nevada, Reno), C. Hardy (Co-I, Lincoln County
School District), D. Lombardi (Co-I, Southern Nevada Regional Professional Development
Program), D. Hepworth (Co-I, SNRPDP), J. Hopkins (Co-I, Nevada State Science Teachers
Association); $461,929 total; $40,232 to UNLV through subcontract – March 1, 2008 to May 31,
2011; Proposal funded by Nevada Department of Education – Mathematics and Science
Partnership Program (NCLB Title II) on 02/07/2008
Nicole Marie Espinoza

7205 Bindweed Rd, Las Vegas, NV 89113

nicolemespinoza@gmail.com

Education

University of Nevada – Las Vegas

Doctoral Student (Ph.D.) in Curriculum and Instruction, Science Education, 2011-current
Bachelor’s Degree in Biological Sciences, Minor in Chemistry, 1998

Professional Profile

- Nevada State Teacher’s Certificate in Biological and Physical Sciences
- Proficient in all Microsoft products, both in research (Excel) and curriculum development (Word)

Grants and Awards

Teacher of the Month – Bonanza High School, September 2010
NSF Grant Recipient: Research Experience for Teachers (RET), Summer 2011 ($15,000)

Professional Teaching Experience

Clark County School District, Bonanza High School

Las Vegas, NV

January 2010 to current

High School Science Teacher

Responsibilities:
- Science Proficiency Tutor
- Science Department Technology Expert
- Advanced Placement Biology (2011-current)
- Forensic Science Honors Teacher (2010-current)
- Anatomy and Physiology Honors Teacher (2010-2011)
- Biology Teacher (2010-current)
- Members of several committees, including Technology, Assessment, and Staff development

University of Nevada – Las Vegas

Las Vegas, NV

June 2008 - January 2010

Anatomy and Physiology Coordinator

Responsibilities:
- Lab setup for class of 400+ pre-health science students
- Supervisor over 10+ part time instructors or graduate assistants

University of Nevada – Las Vegas

Las Vegas, NV

January 2005-June 2008

Microbiology Assistant Lab Coordinator

Responsibilities:
- Lab setup for class of 200+ microbiology students
- Supervisor over 8+ part time instructors or graduate assistants
- Web Site Maintenance for course

References Available on Request
Work Experience

University of Nevada - Las Vegas, Las Vegas, NV 2005 - Present
Collect and analyze research data pertaining to pre-service teachers concepts of inquiry based teaching/learning. Participate in an ongoing research project aimed at improving science teacher proficiency in science. Teach human biology for non-science majors, human anatomy & physiology I and human anatomy & physiology II for pre-nursing majors, principles of modern biology II and human anatomy for biology majors, and teaching strategies for university science designed for college of science graduate students.

Peak to Peak Charter School, Lafayette, CO 2002 - 2005
Taught AP biology, general biology, advanced topics in science, middle school life science, coached varsity soccer, and junior varsity basketball. Curriculum development; General Biology, AP Biology, Advanced Topics in Science, Introduction to Anatomy & Physiology (honors), & Middle School Life Science

University of Northern Colorado COSMOS Program, Greeley, CO 1999 - 2005
As the program assistant for this Upward Bound Math & Science program, it was my job to aid in recruiting first generation, low income students into the program. I also developed integrated math and science curriculum for the summer on campus component, and was a supervisor for other individuals teaching and helping with the program. During the summer session I tutored students twice a week in both math and science areas.

Tutor, Lafayette CO 2003-2005
Tutored elementary school math, high school chemistry and biology.

Consulting Work
HS TIPS
MS TIPS
Project MIST
Project PASS

Education
University of Northern Colorado, Greeley, CO -- PhD 2005
PhD Dissertation: “The Impact of an Introductory College Level Biology Class on Biology Self-efficacy and Attitude Towards Science

Colorado State University, Ft. Collins, CO -- MS 1999
M.S. Thesis Title: “Immunocytochemical Analysis of Serotonin Biosynthesis in Rat Circumvallate and Foliate Taste Buds.”

Colorado State University, Ft. Collins, CO -- BS 1997
Major: Biological Sciences Minor/Concentration: Anatomy & Physiology

Relevant Experiences
Non-Majors Biology Course Coordinator
Mixed-Majors Biology Course Revision Committee
Human Anatomy & Physiology I & II Course Coordinator
Textbook Author (In Progress)
Lab Manual Editor
Course Supplement Author

Publications
NORTHEY HENDERSON

PROFILE

• Offer masters degrees in School Administration and Supervision enhanced by 33 years of teaching background
• Planning, organizing, and leadership skills. Consistently meets deadlines and objectives; works well under pressure.
• Effective communication skills with proven ability to work with diverse populations of students. Maintains an excellent relationship with students, parents, faculty, and administrators. Works well as part of a team or independently.
• Able to identify problems, resourceful in developing and implementing creative solutions.

EDUCATION

MASTERS IN SCHOOL ADMINISTRATION and SUPERVISION, 1998
University of Phoenix – Las Vegas, NV

30 + hours in CURRICULUM, and INSTRUCTION

BACHELOR OF ARTS IN ENGLISH, 1979
University of Southwestern Louisiana – Lafayette, LA

PROFESSIONAL EXPERIENCE

Principal
Bonanza High School  2011

 Principal
Knudson Middle School  2005 - 2011

Assistant Principal
Desert Pines High School  2004 – 2005

Assistant Principal
J. D. Smith Middle School  2002 – 2004

Assistant Principal
Rancho High School  2001- 2002

Dean of Students
Rancho High School  1999 –2001

English Teacher
Rancho High School  1995 - 1999

Middle School Teacher
Von Tobel Middle School  1987 - 1995

English Teacher
Franklin High School  1979 - 1987
Kelly A. Carque  
8136 Pemba Ave., Las Vegas, Nevada, 89131  
kacarque@interact.ccsd.net  
(702) 308-8420 / (702) 799-4000

EDUCATION

May 2010  UNIVERSITY OF NEVADA, LAS VEGAS  Las Vegas, NV  
Master of Education, Special Education  
- Certificate of Distinction/ 4.0 GPA

May 2002  NORTHERN MICHIGAN UNIVERSITY  Marquette, MI  
Bachelor of Science, English Secondary Education

EXPERIENCE

2004-Present  BONANZA HIGH SCHOOL/CLARK COUNTY SCHOOL DISTRICT  Las Vegas, NV  
English Teacher  
- Department Chairperson  2009-Present  
- Experience teaching English I, English II, Publications, Journalism, English Literature  
- Six successful years of co-teaching with a Special Education teacher  
- Common Assessment/Benchmark Test development  
- Subject Area Leader for common planning/STPT meetings

PROFESSIONAL DEVELOPMENT

- Compass Learning Teacher of Record  September 2011-Present  
- Common Core Summer Institute  June 2011  
- Northwest Accreditation Review Committee  2010-2011  
- School Improvement Plan Committee  2009-2011  
- Common Assessment Conference  May 2010  
- AVID Summer Institute  August 2008  
- Curriculum/Benchmark Revision – Literacy  June 2008

ACTIVITIES

- Assistant Track Coach - Sprinting  2005-Present  
  Three State Champion Events – 400m, 4x200, 100m  
- Best Buddies Advisor  2010-Present  
- Bengal Intervention Cadre  2011-Present  
- Cross Country Coach  2007-2009  
- Cheerleading Coach  2005-2007

AWARDS

- Staff Member of the Year  2010-2011  
- Staff Member of the Year  2006-2007

REFERENCES

Available upon request
Instructions: Describe how this proposal has been coordinated with the curriculum and instruction specialists from the local school districts and representatives from the Nevada Department of Education and how those plans address NSHE priorities. Include information on meetings, names of schools or school districts involved, number of participants involved, and job titles of participants. Use additional sheets as needed. A simple letter of support will ordinarily not be accepted as satisfying the cooperative planning requirement.

Meeting between UNLV Doctoral Student/ CCSD Biology Teacher (Nicole Espinoza) and English Department Chair (Kelly Carque) to discuss a possible integrative unit component to institute the Common Core State Standards (CCSS) within an integrative framework with science. In the meeting, it was decided that 9th graders should be the target population, because an integration with Biology and English I would allow all 9th graders to receive the lesson units.

Email Correspondence to Clark County School District Curriculum and Professional Development Department (CCSD CPDD): Kristopher Carroll, Science Facilitator who set up a meeting with CCSD CPDD and Espinoza.

Meeting with CCSD CPDD: Three people in attendance (David Miller, Coordinator of Science CPDD; Elizabeth Marconi, Science Facilitator; and Nicole Espinoza, Biology Teacher and Graduate Student) to discuss the use of the Technical Standards of Common Core State Standards Initiative (CCSSI) with an integrative unit of Biology and ELA. Other individuals who were invited to attend, but who had prior commitments or personal conflicts (illness) were Project Director Dr. Janelle Bailey, CPDD Science Facilitator Kris Carroll, and Nicole Klimow, CPDD ELA Facilitator. In this meeting, we discussed the project outline, including methodology, as well as CPDD’s role in support of the first and last instructional PD day components of the grant, and possible help through the year for the other teacher aligned PD days. CPDD would produce a PD instructional lesson for teachers on science and implementation of the Technical Standards of CCSSI.

Meeting with Principal Northey Henderson, Bonanza High School to discuss implementation in the 2012-2013 school year.

Email/Phone Correspondence to CCSD CPDD for letter of supports (included in proposal).

Additional email and phone correspondence between various partners in an ongoing manner to discuss details as needed.
INSTITUTIONAL COOPERATIVE PLANNING
(Only institutions with teacher education programs must complete this page.)

Instructions: Describe the collaborative institutional planning efforts that have occurred between the education and the English language arts, mathematics, and/or science colleges or departments. Describe how either colleges or departments will be involved with project implementation. Include information on meetings, names of participants and schools and/or departments of participants. A simple letter of support will ordinarily not be accepted as satisfying the cooperative planning requirement.

Meeting with College of Education, Teaching and Learning Department: In attendance, Dr. Bailey and Nicole Espinoza, Doctoral Student and CCSD Biology Teacher. The meeting discussed the importance and intent of compiling a professional development unit to a high school struggling in ELA standards.

Meeting with College of Sciences, School of Life Sciences: In attendance, Dr. Megan Litster, Biology teaching professor and Nicole Espinoza, Graduate Student and CCSD Biology Teacher. In the meeting, we discussed the possibility of Dr. Litster helping with the science education component. She had several ideas of some integrative plans to incorporate with ELA and agreed to participate.

Email Correspondence with College of Science, Department of Life Sciences between Dr. Megan Litster, Dr. Bailey, and Nicole Espinoza discussing the components of the PD.
November 11, 2011

Nevada Collaborative Teaching improvement Program Selection Committee,

I am happy to be writing this letter of support for BELA IPA and express my excitement of being involved as the science content expert.

Project BELA IPA is an interdisciplinary project designed to create partnerships between not only UNLV and CPD, but also between teachers at the same high school. By implementing this partnership project, it will create a community of learning within grade levels, that facilitate learning of both English Language Arts and Biology.

In my role as content expert, I will be working with the advisory team to develop appropriate professional development workshops for the participant teachers. In addition, I will work closely with the teachers to aid in their development of lesson plans.

I am excited about the opportunity to further professional development opportunities for high school teachers, and look forward to being involve throughout the process.

I have included a copy of my curriculum vita with the grant proposal. If you have any questions, please feel free to contact me at (702) 895-5487 or via email at megan.litster@unlv.edu.

Sincerely,

Megan Litster, Ph.D.
Assistant Professor in Residence
November 10, 2011

Dear NeCoTIP Review Panel:

On behalf of the Clark County School District, please accept this letter in support of funding for the professional development proposal *Biology and English Language Arts: Interdisciplinary Partnerships for Achievement (BELA IPA).* The Curriculum and Professional Development Division supports this project, which focuses on a collaboration between biology and English teachers at Bonanza High School.

The Clark County School District recognizes the need to offer professional development opportunities for teachers on the implementation of the Common Core State Standards (CCSS) in English Language Arts. Within these new standards are specific CCSS in Literacy for Science and Technical Subjects. Biology and English teachers at Bonanza High School will work together to plan for and implement biology lessons incorporating CCSS reading and writing standards. The goal is ultimately to increase student achievement in science and English language arts.

I believe that this project has merit and that funding for the project will improve the quality of instruction in Biology classes at Bonanza High School. We appreciate the opportunity to have CCSD teachers involved in a project with expected outcomes of revitalizing and reforming teaching and learning. Please do not hesitate to contact me in the future.

Sincerely,

Mary E. Pike
Director, K-12 Science, Health, Physical Education, Foreign Language, and Driver Education
To Whom It May Concern:

Bonanza High School is committed wholeheartedly to the success of the Ne Co TIP Grant project entitled Biology and English Language Arts: Interdisciplinary Partnerships for Achievement (BELA IPA). We firmly believe that this project will greatly enhance teacher knowledge and expertise in the implementation of Common Core State Standards. Additionally, teachers' instructional strategies will focus on college and career readiness for all students. To enhance the efforts of the implementation of the Ne Co TIP grant, Bonanza High School pledges to provide the project with the following resources:

- General support of an Integrative Lesson Plan implementing Common Core State Standards Initiative (CCSSI) of English Language Arts with Biology I.

- Support of professional development days for eleven total teachers, five times throughout next year.

- Support for Kelly Carque, English teacher, Nicole Espinoza, Biology I teacher, and Northey Henderson, Principal, to attend a CCSSI Summer Institute.

- Support of instituting an Integrative Learning Center that is kept in a computer room and is supported by an English teacher and science teacher.

- Support of materials purchased by the grant, but provided by graphics arts.

My staff and I pledge all the above services and materials because we know that this grant will contribute significantly to the academic success of our students.

Sincerely,

Northey Henderson,
Principal
PARTICIPANTS INVOLVED

NSHE NeCoTIP Proposal

Instructions: Provide an estimate of the number of teachers and/or principals from each identified school that will participate in your program.

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Teachers</th>
<th>Number of Principals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonanza High School, 6665 Del Rey Ave, Las Vegas, NV 89146</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

| Total                                            | 10                 | 1                    |
Subpopulations Served

NSHE NeCoTIP Proposal

Instructions: Provide an estimate of the number of subpopulations that will be served through the participants of teachers/principals and schools served.

<table>
<thead>
<tr>
<th>Subpopulation – Students who qualify as:</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabilities</td>
<td>70 students</td>
</tr>
<tr>
<td>Economically Disadvantaged</td>
<td>254 students</td>
</tr>
<tr>
<td>Limited English Proficiency</td>
<td>82 students</td>
</tr>
<tr>
<td>African American Descent</td>
<td>59 students</td>
</tr>
<tr>
<td>Hispanic Descent</td>
<td>235 students</td>
</tr>
<tr>
<td>Native American Descent</td>
<td>4 students</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Range of 300-400 Students*</td>
</tr>
</tbody>
</table>

* Estimates were made based upon the percentages of the Bonanza High School population for each category, as taken by the 2010-2011 School Accountability Summary Report. The grant would only include the 9th grade population of 2012-2013 (still in middle school), assuming the same or higher percentages may be in effect. An incoming population of 600 9th grade students for the 2012-2013 year was assumed. A range is provided because some students may fall into more than one of the categories listed.
## CURRENTLY FUNDED AND PENDING PROPOSALS

Currently funded projects and pending proposals involving the project director and associated staff members. (If no funded proposals, enter "none" under Project in the table below).

<table>
<thead>
<tr>
<th>Project</th>
<th>Funded / Pending</th>
<th>Project Member</th>
<th>% Annual Time</th>
<th>Total Award</th>
<th>Funding Agency</th>
<th>Award Dates Start/End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology and English Language Arts: Interdisciplinary Partnerships for Achievement (BELA IPA)</td>
<td>pending (present proposal)</td>
<td>PD Bailey Litster</td>
<td>5% 1%</td>
<td>$62,031</td>
<td>NDE/ NeCoTIP</td>
<td>03/12-09/13</td>
</tr>
<tr>
<td>CAREER: CASSIOPEIA – Conceptual Assessment Inventories Of Perceptions Of Evolution In Astronomy</td>
<td>pending</td>
<td>PD Bailey</td>
<td>25%</td>
<td>$699,455</td>
<td>NSF</td>
<td>05/12-05/17</td>
</tr>
<tr>
<td>Using the Big Ideas in Cosmology to Teach College Students: Curriculum Development</td>
<td>funded</td>
<td>PD Bailey</td>
<td>10%</td>
<td>$499,596</td>
<td>NASA</td>
<td>03/10-06/13</td>
</tr>
<tr>
<td>Project Grow</td>
<td>pending</td>
<td>Litster</td>
<td>.1%</td>
<td></td>
<td>NDE/ NeCoTIP</td>
<td>03/12-09/13</td>
</tr>
</tbody>
</table>
STATEMENT OF ASSURANCES

I, R. David Paul, chief executive officer/financial officer of Board of Regents, NSHE, obo UNLV. (Typed name of person) (Typed name of institution) hereby provide assurances to the Nevada System of Higher Education that should this institution receive a grant under the terms of the No Child Left Behind Act, it will:

1. Upon request, provide the Nevada System of Higher Education with access to records and other sources of information that may be necessary to determine compliance with appropriate federal and state laws and regulations;

2. Conduct educational activities funded by this project in compliance with the following federal laws:
   a. Title VI of the Civil Rights act of 1964
   b. Title IX of the Education Amendments of 1972
   c. Section 504 of the Rehabilitation Act of 1973
   d. Age Discrimination Act of 1975
   e. Americans with Disabilities Act of 1990
   f. Improving America’s Schools Act of 1994;

3. Use grant funds to supplement and not supplant funds from nonfederal sources;

4. Take into account during the development of programming the need for greater access to and participation in the targeted disciplines by students from historically under represented and underserved groups;

5. The institution further assures that all program and evaluation reports required by the U.S. Department of Education and/or the Nevada System of Higher Education will be submitted in accordance with stated guidelines and deadlines.

I hereby certify that the information in this application is correct and that the project will be carried out as described in the application.

[Signature]

Executive Director of Sponsored Programs

Title

Date 11-14-2011
# NeCoTIP REVIEW PANEL EVALUATION FORM

**Title** Biology and English Language Arts: Interdisciplinary Partnerships for Achievement (BELA IPA)  
**Project Director** Janelle M. Bailey, Ph.D., UNLV

---

**any no answer rejects the proposal**

Eligible Sponsoring Institutions  
Eligible Disciplines  

**Consistent with Systemic Reform of Education**
- alignment with state content standards;  
- addresses specific needs of CCSD;  
- improvement of instruction for subpopulations;  
- collaboration between content specialists, teacher education specialists, and practicing teachers;  
- literature citations demonstrating that activities and educational strategies are based on scientific research

**Cooperative Planning and Collaboration**
- Participant Input and Involvement in Planning  
- Joint Effort within Higher Education Institutions  
- Collaboration with other Programs

**NPO Demonstrated Effectiveness**

**Sustained, Intensive Professional Development**

**Project Duration**

**Educational Technology and/or Distance Education**

**Quality of Personnel**

**Demonstrated Need**

**Plan of Operation**

**Evaluation Plan**

**Resources & Institutional Commitment**

**Budget and Cost Effectiveness**

**Quality of Proposal**
- Followed RFP formatting guidelines  
- Submitted all required information

**Total**

**Proposal ranking (best proposal ranked #1)**