Unit Outcomes
T1. Admissions will complement recruitment efforts of diversifying WA teacher workforce

Indicators
A. Enrollment
B. Diversity/ Military
C. Rate of Acceptance
D. WEST B Math
E. WEST B Reading
F. WEST B Writing
G. Disposition Inventory (DI)

Expected Performance Level (Criterion)
A. Enrollment numbers are maintained
B. 20% of our candidates will represent underrepresented populations including military
C. 75% of all applicants will be accepted into the program
D. 90% will achieve 240 on Math
E. 90% will achieve 240 on Reading
F. 90% will achieve 240 on Writing
G. 100% of Program Candidates will complete the DI

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OREA / Program / Fall Quarter November 1 and December 15
B. OREA / Program / Fall Quarter November 1 and December 15
C. OREA / IR / Program / Program / Fall Quarter November 1 and December 15
D. Pearson/ All Quarters
E. Pearson/ All Quarters
F. Pearson/ All Quarters
G. OREA / Program / Fall Quarter November 1 and December 15
Interpretations/Key Strategies/Initiatives

A. ADMISSIONS. Trends have increased slightly over the past several academic years, from lower enrollment numbers in 2007-2008. Since the 2007-2008 academic year we have increased enrollment by 38%. Current enrollment numbers indicate a fairly flat trend.

B. DIVERSITY. Ethnic diversity of science teaching candidates appears to be lower than our program target of 20%. As a program, we need to do a better job of recruiting and retaining candidates of color. However, trends also indicate that CWU graduates a much higher percentage of female secondary science teachers, which is addressing a major area of need and is in contrast to existing science teacher positions that are predominantly occupied by males.

C. ACCEPTANCE (DATA NOT PROVIDED). If Science Education candidates are a smaller reflection of the CTL, then acceptance levels are 89%.

D. MATH. During the past 5 years, Science Education has attracted well-qualified candidates who perform well above the CTL standard for mathematics. We will continue to focus recruitment efforts on attracting and retaining candidates with high quantitative skill.

E. READING. As for Math, over the past 5 years Science Education has attracted well-qualified candidates who perform well above the CTL standard for reading. Recruitment efforts will continue to attract and retain candidates with high reading skill.

F. WRITING. With the exception of 2011-2012 which had Science Education candidates below our 90% Writing standard, Science Education candidates have performed above the 90% standard in Writing. Science Education candidates have met the 90% Writing standard on average over the past 5 years. Writing in Science Education is receiving much greater emphasis and reflects national concerns to improve undergraduate writing quality. We have reformed our curriculum and assessment to more specifically address issues related to writing including format and creativity as well as writing mechanics.
G. DISPOSITIONS INVENTORY. Percentage of Science Education candidates completing the Dispositions Inventory has steadily increased from a low of 78% in 2007-2008 to 97% in 2011-2012. However, this is below our goal of 100% of candidates completing the Inventory. We should consider strategies to increase completion, possibly by getting more specific information from CTL administration on who hasn’t completed the form.

Budget/Resource Analysis
Recruitment of science teaching candidates, including students of diversity, is one of our major areas of focus. We need funds to develop a comprehensive marketing strategy and coordinated marketing plan across the region and state that highlights the center of science teaching excellence at CWU. We also need to improve the consistency and breadth of science teaching advising and associated materials. We request a goods and services increase of $3000 one time and $1000 ongoing, and a marketing/IT staff person to help design and implement the strategy. We also request a minimum of 1 WLU per SCED faculty member (7 WLU total), to be flexibly allocated by the department to meet advising need.

UNIVERSITY OBJECTIVE 1.1: T2 Retention

Unit Outcomes
Retention efforts will enable candidates to complete this program of study successfully in a timely manner, and prepare highly qualified graduates ready to assume needed positions in the teacher workforce

Indicators
A. CTL Standards
B. Time to Completion
C. Portfolio Submission

Expected Performance Level (Criterion)
A. 90 % Met 2008 Standards (3 on a 5 point scale)
B. Time to completion = 9 quarters
C. 90% are completing a Program and PEP core portfolio

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OREA and Program / Fall Quarter October 1 and December 1
B. OREA and Program / Fall Quarter October 1 and December 1
C. OREA and Program / Fall Quarter October 1 and December 1

A
Met Criterion

B
Met Criterion

C
Needs Improvement

Interpretations/Key Strategies/Initiatives
A. CTL STANDARDS. In the last 5 years science students have performed at least as well as the average CTL student and in some cases one standard deviation above the CTL average. In 2011-2012 science students were slightly less than the CTL average for CTL 1.4. We will investigate this standard and how it is currently assessed and make a recommendation for our program if necessary in order to support development in this area.

B. TIME TO COMPLETION. Since 2010, science students have a shorter time to completion than the CTL average overall. Main campus students are taking more time than either transfer or center students. One of our goals is to improve advising and council students earlier so their time to graduation can be decreased. This situation should be improved by having more students declare science majors earlier.

C. COMPLETION OF PROGRAM AND PEP PORTFOLIOS. The data shown does not provide an intuitive indication of student completion; however, a comparison of science and CTL students shows science students complete PEP portfolios a higher percentage of time than CTL students. We plan to get further clarification on this metric, because if science shows only a 51.1% completion percentage, and the goal is 90%, then there is a problem in PEP courses where these portfolios are required or there is a systematic issue with PEP portfolio completion with insufficient monitoring of the process. With regards to program portfolios, no data is provided to enable informed decision-making on this metric.

Budget/Resource Analysis
Science education faculty have a comprehensive portfolio assessment strategy that has a 100% completion rate within our department. The data provided in the CDMS indicate that some SCED students are not completing required PEP portfolios, or PEP portfolios are not being assessed by PEP faculty. Implementing the comprehensive portfolio strategy ensures science education candidates have the requisite knowledge, skills, and dispositions needed for science teaching excellence. However, this assessment strategy is very time consuming. Current workload allocations limit continuous adjustment of portfolios based on best practice research and evaluation of student data. Updates to technology infrastructure are also needed to ensure seamless data collection and analysis. We request 2 WLU per science teaching program (Biology, Chemistry, Earth Science, Physics, Middle Level, and General Science Teaching), to be allocated by the department to program coordinators. We also request an annual goods and services increase of $2000 to support faculty computers and $2400 annually to support student workstations. An IT staff is also needed to provide logistical support for science education technology.

UNIVERSITY OBJECTIVE 1.1: T3 Student Teaching

Unit Outcomes
Student Teaching provides candidates a diverse culminating experience where program content-pedagogy is synthesized and tested in real classrooms.

Indicators
A. Candidates are ensured placements in school settings that are highly diverse during student teaching
B. Final Student Teaching Evaluation (FSTE)
C. Disposition Inventory
D. WTPA

Expected Performance Level (Criterion)
A. 50% are placed in highly diverse settings
B. 80% will Meet the Standards averaging 3point or better on the 10 FSTE rubrics
C. 100% will demonstrate a positive change on all four domains of the DI
D. 80% will Average of 3 or better across 15 testing domains on the WTPA
A. DIVERSE STUDENT TEACHING PLACEMENT. In general, science student teachers are placed in schools as diverse, and in some cases, more diverse, than their CTL equivalents. Even though science students are being placed in more diverse schools, their placement is still below the goal of 50%. We plan to continue having conversations with student teaching placement personnel to ensure science students are provided with suitably diverse student teaching experiences.

B. FINAL STUDENT TEACHING EVALUATION. In general, science students perform as well as CTL students over the 5 year period under review. Science students tend to perform better in the areas of foundational knowledge, classroom management, and assessment, and score less well in school, home, and community. We plan to continue building candidate foundational knowledge, classroom management, and assessment - elements that are deeply embedded in the scientific enterprise - and focus more energy building community connections with candidates.

C. DISPOSITION INVENTORY. Across the 5 year review period, the average science candidate shows larger positive changes in teaching disposition than does the average CTL student. Disposition 3 (self reflection) shows more variability than other dispositional indicators. Science teaching faculty will work to be more intentional and consistently build this important professional characteristic into candidate science teaching courses.

D. WTPA. These results are very preliminary and not very reflective of science or CTL students in general at this point. Since the WTPA was not required to pass student teaching, it is unlikely that students showed the level to which they are truly capable of performing. Regardless, science education faculty are actively evaluating and incorporating key elements of the WTPA into several science education courses. These changes should have a positive impact on WTPA scores.

**Budget/Resource Analysis**
Current results are inconclusive given the unofficial requirement of the TPA. Science education faculty plan to build key TPA elements into existing methods and practicum coursework, regardless. Science education faculty have little to no input on candidate placement, even though we are in the best position to know their strengths and weaknesses and ensure a maximally effective placement. Science education faculty support diverse placements as they promote increased candidate professional and personal growth. We need to have more transparent
communication about science education candidate placements and at least some input on where they eventually are placed. Given the technology-focused nature of the WTPA, we need suitable tools (e.g. flip cameras and the like) to enable students to record their performance and scientifically analyze it according to TPA and professional conventions. We also need updated computers that can handle video editing and related technology processing for best presentation of candidate growth and ability to meet standards. See request in previous section for baseline faculty and student computers. In addition, we request a dedicated student workstation at $1500 and $1000 for portable video cameras and related recording devices. As with our prior request, these technology items require the support of an IT professional.

UNIVERSITY OBJECTIVE 1.1: T4 Program Completion

Unit Outcomes
Graduation and Certification of program candidates will occur in a timely manner.

Indicators
A. Graduation
B. Time to Degree
C. WEST E scores
D. Certification Rate

Expected Performance Level (Criterion)
A. 85% will graduate
B. 90% of the candidates will complete the program on-time
C. 80% will Pass their Major Content Test (WEST-E) in their content area on their first attempt
D. 90% receive a first time residency certificate

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. Safari CAPS / Continuously
B. OREA/ IR / Summer Quarter
C. Pearson / All Quarters
D. Certification Office (CO) / Fall Quarter / November 1 / December 15

A
N/A

B
Met Criterion

C
Needs Improvement

D
Met Criterion

Interpretations/Key Strategies/Initiatives
A. GRADUATION. There is insufficient data to answer this. What is needed to answer is data on how many students dropped out from the program. This can then be compared to the total number of graduates to determine graduation percentage.

B. TIME TO DEGREE. With the exception of 2010-2011, undergraduate science teaching candidates graduated on-time about 90% of the time. It is unclear why there was a decrease in that year. Science education faculty plan to investigate the issue to ensure on-time graduation remains at acceptable levels.

C. WEST E SCORES. If the data can be relied on to be accurate, the average of first-time WEST-E passers across all science areas is between 50-60%, which is below standard. It is difficult to extract the information needed from the tables to make an accurate determination. Science education faculty will need to have a collaborative discussion about how to ensure more candidates are passing the WEST-E the first time they take it. It will also be useful to disaggregate available data into the different science content areas, including middle level, so our efforts can be maximally productive and strategically focused.

D. CERTIFICATION RATE. Over the 5 year review period, on average science candidates received certificates in their content area over 90% of the time. There were some anomalies in 2010-2011 that are difficult to analyze from the data provided. Science education faculty will continue to evaluate certification data to ensure that candidates are becoming certified to teach in their chosen science specialty.

Budget/Resource Analysis
Secondary science education candidates are doing reasonably well in passing the WEST-E exam required for endorsement in their science content area, with the exception of Middle Level Science. The reality is that Middle Level students simply do not have enough content exposure to provide the background needed to pass the WEST-E. Science education faculty would like to be more intentional and coordinated about WEST-E preparation for ALL secondary candidates to ensure a larger number are passing their first time. We also need to update our instructional materials on hand to ensure candidates are experiencing the most current pedagogical tools used in the field. To meet these needs, we request 5 WLU annually to teach an interdisciplinary content course (SCED 311) that enables candidates to identify areas of content weakness and address them accordingly. This course is taught periodically at CWU centers but should also be taught on the main campus. Current workload time restrictions prevent this from occurring. Furthermore, we request $1500 annually to purchase and refurbish necessary instructional materials.

UNIVERSITY OBJECTIVE 1.1: T5 Post-Graduation

Unit Outcomes
The program prepares highly qualified and satisfied members of the teaching community

Indicators
A. First Year Placement
B. Third Year Placement
C. Employment retention
D. Alumni Satisfaction Survey (Coursework)
E. Alumni Satisfaction Survey (Strategies and Assessment)
F. Alumni Satisfaction Survey (Student Teaching)
G. Alumni Satisfaction Survey (Difference in coursework and Student Teaching)

Expected Performance Level (Criterion)
A. 50% of the program's graduates will find teaching jobs within 1 year after certification
B. 70% of the program's graduates will find teaching jobs within 3 years after certification
C. 80% of the graduates hired will remain teaching after five years
D. Satisfaction with “Coursework Relevance” indicated by a 3.5 or better
E. Satisfaction with “Strategies and Assessment” indicated by a 4 or better
F. Satisfaction with “Student Teaching Feedback” indicated by a 4 or better
G. Coherence with “coursework and student teaching” indicated by a 3 or lower

**Indicator/Performance Level Reported By / When do assessments take place? Term / Dates**

A. OREA / Fall Quarter/ November 1
B. OREA Fall Quarter / November 1/ Programs /December 15
C. OREA Fall Quarter / November 1/ Programs /December 15
D. OREA Fall Quarter / November 1/ Programs /December 15
E. OREA Fall Quarter / November 1/ Programs /December 15
F. OREA Fall Quarter / November 1/ Programs /December 15
G. OREA Fall Quarter / November 1/ Programs /December 15

A
Below Criterion

B
N/A

C
N/A

D
Below Criterion

E
Below Criterion

F
Below Criterion

G
Met Criterion

**Interpretations/Key Strategies/Initiatives**

A. FIRST YEAR PLACEMENT. With the exception of 2010-2011, we are meeting our goal of 50% placement. As with other indicators, 2010-2011 appears to have spurious results. When all 5 years are taken into account we are not meeting this standard. We would like to focus more on post-graduation induction. This should be part of a larger conversation within the CTL, as it is a trend both in our program and across the CTL.
B. THIRD YEAR PLACEMENT. These data are difficult to interpret or draw any conclusions from. For example, the numbers for the science education program 3rd year employment indicate that 100% of our graduates are teaching science; however these numbers do not match the table above for first year employment, and there is no obvious connection between the two.

C. EMPLOYMENT RETENTION. It is difficult to understand what the data is telling us in this section. Is there a total number we can compare to? Is that number in another table? If so, why not just report both the numbers as well as a percentage? This would enable clearer decision-making.

D. ALUMNI SATISFACTION - COURSES. These results are also difficult to interpret because only 5 individuals have completed the survey in 5 years. Based on that data, course satisfaction is below the standard of 3.5 (presumably out of 5; not indicated). However, it is not clear whether these numbers disaggregate science education courses specifically or whether they are a combination of PEP and science education courses. Our internal survey results indicate that science teaching candidates are in general much less satisfied with PEP courses than they are with science education courses.

E. ALUMNI SATISFACTION - STRATEGIES/ASSESSMENT. Again, the representation of only 5 students makes drawing definitive conclusions difficult, but in general science student opinion indicates we did not meet this standard. As with the previous indicator, science education and PEP courses are lumped together, and our internal data shows a marked difference in candidate satisfaction between the two.

F. ALUMNI SATISFACTION - STUDENT TEACHING. In general science student opinion indicates we did not meet this standard. As with the previous indicator, science education and PEP courses are lumped together, and our internal data shows a marked difference in candidate satisfaction between the two.

G. ALUMNI SATISFACTION - COURSEWORK/STUDENT TEACHING DIFFERENCES. This indicator is a better reflection of the difference between science education and PEP coursework. Science education alumni data shows that they felt their coursework better prepared them for student teaching in science than for the larger CTL. With science education faculty implementation of key WTPA elements without our coursework, these numbers are more likely to become more favorable over time.

Budget/Resource Analysis
Our analysis of CDMS-provided data indicates that first and third year placements are below the CTL standard, but the exceedingly small number of alumni surveyed make drawing any definitive conclusions difficult. The data is somewhat unclear as well. This could be mitigated with a science education-specific alumni survey. Science education faculty have accumulated considerable data on graduating seniors as part of the comprehensive assessment strategy we currently have in place. We are quite clear on what program elements students felt were most and least, effective, including science education AND PEP courses and experiences. What is needed is a clearer picture of what is happening with science education first and third year retained teachers, using a MUCH larger dataset. We would like to connect post-graduation assessment via surveys and similar tools to our requested marketing strategy so that alumni experiences are linked to recruitment of new science teaching candidates. No additional funds are requested beyond those previously requested for marketing.

UNIVERSITY OBJECTIVE 1.2: Enhance the Effectiveness of Student Support Services

Unit Outcomes
A. Faculty annually review effectiveness of field placements, mentoring, and mentor training
B. The Program reviews student satisfaction with advising
C. The Program faculty monitor, discuss, and collectively report on academic support improvements in the program and curriculum
A. Field Placement documentation
B. New Teacher Survey results
C. Faculty meeting minutes and annual reports

Expected Performance Level (Criterion)
A. Field placement data show 80% of Program candidates’ score a level 3 or better on field placement rubrics
B. Survey results show improvements in satisfaction
C. Programs attempt to make one improvement annually

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OFE and OREA Fall Quarter / November 1/ Programs /December 15
B. OREA Fall Quarter / November 1/ Programs /December 15
C. OREA Fall Quarter / November 1/ Programs /December 15

A
Surpassed Criterion

B
N/A

C
Exceeded Criterion

Interpretations/Key Strategies/Initiatives
A. EFFECTIVENESS OF FIELD PLACEMENTS. According to student teaching data, 100% of science teaching candidates met or exceeded level 3 on student teaching rubrics.

B. STUDENT ADVISING SATISFACTION. No data is provided. Data from our comprehensive assessment plan indicates that students feel supported and satisfied with the advising and mentoring they receive in science education. They feel far less supported in receiving advice from the PEP faculty.

C. MINUTES AND REPORTS. Science education faculty meet regularly and collaboratively discuss student and program assessment data and continuously make program changes based on results and data trends. All curriculum and course changes over the past 10 years have followed this model, as evidenced by meeting minutes and annual reports.

Budget/Resource Analysis
Our comprehensive portfolio assessments provide considerable data on candidate performance over time. The previously requested 2 WLU for each faculty that coordinates a science teaching program is sufficient for science education faculty to accomplish ongoing planning and evaluation. No additional funds are requested.

UNIVERSITY OBJECTIVE 2.1: Enhance the Environment of Inclusiveness for Faculty, Staff, and Students
A. The Program seeks input from groups of underrepresented groups to inform recruitment and retention practices
B. Programs demonstrate the dispositions of a professional educator
C. Address the state and partner districts’ goals for diversifying the workplace

Indicators
A. Professional Development
B. CTL Disposition Inventory analysis
C. District Placements

Expected Performance Level (Criterion)
A. The Program offers one professional development opportunity per year to faculty learn more about equity pedagogy from different underrepresented groups
B. Candidates’ post-test scores have positively improved by .10 on all four domains
C. Graduates represent 17% diversity (including military)

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. Program / Fall Quarter / December 1
B. OREA and Program / Fall Quarter / November 1 and December 15
C. OREA and Program / Fall Quarter / November 1 and December 15

A
Met Criterion

B
N/A

C
Below Criterion

Interpretations/Key Strategies/Initiatives
A. INPUT FROM UNDERREPRESENTED GROUPS. The CTL offered a professional development opportunity focused on diversity during the 2011-2012 academic year and science education faculty were encouraged to attend. Two science education faculty attended a workshop on Guided Language Acquisition Design that focused on supporting English Language Learners. Science education faculty will continue explore and implement best teaching practices to support diverse students.

B. DISPOSITIONS. Across the 5 year review period, the average science candidate shows larger than 0.10 change in teaching dispositions of the 4 domains and shows a 0.09 gain on Domain 1 - Teacher candidates recognize they are professionals engaged in scholarly and collaborative pursuit. Analysis of the discipline specific disposition survey that is part of our comprehensive assessment system also reveals positive change as a result of our program. Science education faculty will continue to advise, mentor, model, and assess for dispositions required to become an effective teacher. Science education faculty will work to be more intentional and consistently build these important professional characteristics into science education courses.

C. WORKPLACE DIVERSITY. Ethnically the secondary science education programs are not very diverse (~10% between 2007-2008 and 2009-2010 and dropping to around 5% for the last two years). The CDMS data does not include diversity measures for our graduates, only
majors. There is no reason to believe that the diversity of the candidates graduating in secondary science is significantly different from the diversity of students in the program. Historically, women have been underrepresented in secondary science teaching. Over the last 5 years 70-80% of science teaching candidates have been women. Recruiting a diverse pool of science teaching candidates is a necessary and major area of focus.

Budget/Resource Analysis
Recruitment of science teaching candidates, including students of diversity, is one of our major areas of focus. We need funds to develop a comprehensive marketing strategy and coordinated marketing plan across the region and state that highlights the center of science teaching excellence at CWU. We also need to improve the consistency and breadth of science teaching advising and associated materials. The goods and services, IT staff, and faculty workload request made under University Objective 1.1 will be sufficient funds to include specific recruiting efforts for a diverse candidate pool.

UNIVERSITY OBJECTIVE 2.2: Increase Faculty, Staff, and Student Diversity by Active Programs of Recruitment and Retention for Members of Underrepresented Groups

Unit Outcomes
A. Faculty seek highly qualified faculty members (attention to diversifying the faculty) to join the Program
B. Program actively recruits and admits underrepresented candidates

Indicators
A. Program Faculty Demographic Trends
B. Program Candidate Demographic Trends

Expected Performance Level (Criterion)
A. The Program increased or maintained its highly qualified diverse faculty over the past five years
B. 20% of Program candidates are from cultures other than Caucasian

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OREA and Program / Fall Quarter / November 1 and December 15
B. OREA and Program / Fall Quarter / November 1 and December 15

A
Met Criterion

B
Below Criterion

Interpretations/Key Strategies/Initiatives
A. FACULTY DEMOGRAPHIC. The science education faculty are 100% caucasian and 57% female. Since females are underrepresented most of the science programs we support (i.e. Chemistry, Earth Science, Physics) and in secondary science teaching, a greater the 50% female faculty is a positive indicator of diversity. During the last 5 years we have done two faculty searches and hired females each time.

B. CANDIDATE DEMOGRAPHIC. As indicated in previous section of this document, the secondary science teaching candidate pool is not sufficiently diverse. Specific recruiting of students of color is necessary. Science education faculty have expanded relationships with teachers...
Budget/Resource Analysis
Faculty diversity is high from the perspective of gender but low ethnically. If given an opportunity to hire a new faculty member, the search committee will actively recruit candidates of diverse ethnicities. Solving the problem of the lack of ethnic diversity in the secondary science teaching candidate pool requires time be spent on a comprehensive, consistent marketing plan including specific recruiting materials. Funds requested under University Outcome 1.1 are sufficient to support the recruitment of greater numbers of ethnic minorities into the secondary science teaching programs.

UNIVERSITY OBJECTIVE 2.3: Ensure that CWU has an Inclusive and Diverse Curriculum

Unit Outcomes
A. Candidates demonstrate cultural competence using Program Portfolios
B. Field experiences are integrated throughout the preparation program and provide opportunity to plan, practice and reflect on methods of instruction and differentiation
C. Field experiences provide opportunity to work in communities or with populations dissimilar to the background of the candidate

Indicators
A. PEP and Program Portfolio Data on CDMS
B. Field Experience Data on CDMS
C. Diversity Index Data on CDMS

Expected Performance Level (Criterion)
A. The Program requires candidates to substantiate cultural competence by scoring a 3 or better on CTL Standard 1.3 using a portfolio 85% of the time
B. Field Experience data demonstrate 100 hours of embedded practice that includes assessed reflections on instruction and differentiation
C. The diversity index illustrated that 80% of Program candidates have had an experience in a classroom dissimilar to their own background

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OREA and Program / Fall Quarter / October 1 and December 1
B. OREA and Program / Fall Quarter / October 1 and December 1
C. OREA and Program / Fall Quarter / October 1 and December 1

A
Surpassed Criterion

B
Surpassed Criterion

C
Below Criterion
A. CANDIDATE CULTURAL COMPETENCE. Secondary science teaching candidates score on average 4.48 on CTL Standard 1.3 and thus exceed the CTL standard of 3 or better. CDMS data does not currently reveal the percentage of students who scored greater than 3. Science education faculty will model culturally competent pedagogies when teaching.

B. FIELD EXPERIENCE REFLECTION. No data is provided in the CDMS currently to evaluate performance in this area. Science education has recently implemented a 50 hour practicum course that includes reflection elements similar to those required in the TPA.

C. DIVERSITY OF FIELD EXPERIENCE. Data indicate that in the last two years the percentage of candidates experiencing ethnically diverse field placements has increased from an average around 30% to and average of just over 50%. The percentage of candidates receiving a bilingual and a high poverty experience is roughly parallel to the ethnicity data. Science education faculty currently have no say in student teaching placements. We plan to continue having conversations with student teaching placement personnel to ensure science students are provided with suitably diverse student teaching experiences.

Budget/Resource Analysis
Faculty modelling culturally competent teaching is important for candidates to understand how to demonstrate effective strategies and dispositions related to cultural competence. Modeling effective strategies requires that faculty develop cultural competence and related teaching strategies. Providing time for candidates to reflect on their teaching and how they differentiated instruction is important and just as important is the time required for faculty to provide feedback on student reflections. Placing candidates in diverse field experiences will increase cultural competence, however, science education faculty have little to no input on candidate placement which is one reason why we implemented a secondary science practicum course. Science education faculty fully support diverse placements as they promote increased candidate professional and personal growth. We need to have more transparency communication about science education candidate placements and at least some input on where they eventually are placed. We request 1 WLU per faculty member (7 WLU total) to participate in professional development around cultural competency and to develop modules in science teaching courses that explicitly model culturally competent teach. The faculty time requested in a prior section for advising and assessment will effectively allow faculty time to provide opportunities for and feedback on candidate teaching reflection.

Source URL: http://www.cwu.edu/teaching-learning/node/2592/submission/20
**1. What student learning outcomes were assessed this year, and why?**

In answering this question, please identify the specific student learning outcomes you assessed this year, reasons for assessing these outcomes, with the outcomes written in clear, measurable terms, and note how the outcomes are linked to department, college and university mission and goals.

We assessed general education related **goal 3a**, “Students will achieve fluency in reading.” All science teacher education majors must be proficient in a variety of reading skills, such as assimilating information to create lesson plans and assessments, teaching science literacy, and communicating scientific knowledge. This general education goal is also linked to the Science Education Department Goals:

- SCED Department Goal 1: Increase scientific literacy for all students. Reading in the science content field is an essential aspect of science literacy.
- SCED Department Goal 2: Use best-practice pedagogy to improve student learning outcomes. Incorporating reading assessment into assignments and assessments is best-practice pedagogy.
- SCED Department Goal 3: Promote quality training of pre-service science teachers. Teachers need to be able to read effectively, and pre-service teachers need models of how to incorporate reading assessment into assignments they’ll use as teachers.

Please see [http://www.cwu.edu/~gen_ed/docs/assessgened.pdf](http://www.cwu.edu/~gen_ed/docs/assessgened.pdf) for the description of how the CWU general education program are linked to the university mission and goals.

**2. How were they assessed?**

In answering these questions, please concisely describe the specific methods used in assessing student learning. Please also specify the population assessed, when the assessment took place, and the standard of mastery (criterion) against which you will compare your assessment results. If appropriate, please list survey or questionnaire response rate from total population.

**A) What methods were used?**

The COLLEGE READING RUBRIC ([www.cwu.edu/general-education/sites/cts.cwu.edu.general-education/files/documents/CollegeReadingRubric.pdf](http://www.cwu.edu/general-education/sites/cts.cwu.edu.general-education/files/documents/CollegeReadingRubric.pdf)) was used to assess the students’ reading skills in reading rate and ability to write a detailed and accurate summary of what they read. The chosen reading was an excerpt from a primary literature article on professional development for teachers (Jeanpierre, Oberhauser, and Freeman, 2005). This article was chosen, because it is important for graduating seniors in our majors to be able to read primary literature in science education. In addition, students were studying professional development in class, so this article was relevant to the course material. The criteria for assessment are stated in the rubric.

**B) Who was assessed?**

The instructor of SCED 487 (Teaching Secondary Science Seminar) used the rubric to evaluate the reading skills of every student in that class. The following data are based on the seven students enrolled in SCED 487 in winter 2012. All of the students in this class were secondary science teaching majors in various disciplines (biology, chemistry, and earth science teaching majors). This course is required for all secondary science teaching majors, and it is typically one of the last courses completed by students in the program.

**C) When was it assessed?**

The assessment was done in the last week of the quarter during a class period.
3. What was learned?
In answering this question, please report results in specific qualitative or quantitative terms, with the results linked to the outcomes you assessed, and compared to the standard of mastery (criterion) you noted above. Please also include a concise interpretation or analysis of the results.

According to the COLLEGE READING RUBRIC, the students exhibited excellent reading skills for use of vocabulary, were proficient in summarizing details and the author’s intent, and were below proficient in reading rate. Although reading rate was low, we feel that this category is less important than the others, because it is more important for students to comprehend what they read than to read quickly.

<table>
<thead>
<tr>
<th>Rubric Component</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Passed (%)</td>
<td></td>
</tr>
<tr>
<td>Reading Rate</td>
<td>57</td>
</tr>
<tr>
<td>Details</td>
<td>71</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>100</td>
</tr>
<tr>
<td>Intent</td>
<td>71</td>
</tr>
</tbody>
</table>

4. What will the department or program do as a result of that information?
In answering this question, please note specific changes to your program as they affect student learning, and as they are related to results from the assessment process. If no changes are planned, please describe why no changes are needed. In addition, how will the department report the results and changes to internal and external constituents (e.g., advisory groups, newsletters, forums, etc.).

Even though this assessment report is based on the winter 2012 SCED 487 course, the results apply to all SCED undergraduate courses, because they all require reading.

Recommendation 1: SCED faculty will continue to incorporate reading and evaluation of science education primary literature in appropriate SCED major courses (SCED324, SCED325, SCED487).

Recommendation 2: Pre-service teachers will learn reading strategies and incorporate at least one of these in an example lesson plan (SCED324).

5. What did the department or program do in response to last year’s assessment information?
In answering this question, please describe any changes that have been made to improve student learning based on previous assessment results. Please also discuss any changes you have made to your assessment plan or assessment methods.

Last year we assessed writing. The recommendations from last year’s report and our responses are as follows.

Recommendation 1: SCED faculty will provide a better bibliography template and better model its use.
   Response: SCED faculty who teach in courses that require a research project now provide excellent example posters with bibliographies for students to use as models. Secondary science students learn the use of Zotero to do bibliographies in SCED 325.

Recommendation 2: In the communication of all class investigations, SCED faculty will stress the communication of both quantitative AND qualitative results.
   Response: SCED faculty who teach in courses that require a research project have worked to better compare and contrast quantitative AND qualitative results in research projects. For example, the poster instructions and rubrics in 301/401 clearly state the need to provide both types of data and to draw conclusions using both types.

Recommendation 3: While “format, spelling, and grammar” were not an issue in this assessment, we realized that this part of our rubric is too general and covers two components of the CWU Writing Rubric: aspects of organization and conventions & presentation. SCED faculty will revise the rubric to separate out formatting criteria and criteria more closely related to the mechanics of writing.
   Response: Format and mechanics (spelling and grammar) have been separated into different categories in various writing rubrics in several SCED courses in order to better assess each of these components.
6. Questions or suggestions concerning Assessment of Student Learning at Central Washington University:

None.