Executive Summary

Artifacts within the C5 and P5 categories were scored by multidisciplinary teams of university faculty members during a two-day workshop in July 2018.

The results of that scoring effort are:

- In the C5 (Biological and Physical Sciences) category, 53% of artifacts scored as either Exemplary or Achieving.
- In the P5 (Fine and Performing Arts) category, 22% of artifacts scored as either Exemplary or Achieving.

Additionally, in their qualitative comments, faculty assessors in both the C5 and P5 categories emphasized the need for:

- closer alignment between assignments and outcomes/rubrics
- access to detailed assignment guidelines
- anonymity in student assignment submissions to reduce potential scoring bias
- enhanced communication regarding required Liberal Studies language on each syllabus

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1. Rationale for Assessment

WCU's Liberal Studies Program engages in an on-going assessment of student learning within its curriculum. This curriculum consists of approximately 250 courses, and its size means that it touches almost every student experience and almost every department at the university. For that reason, it is important evaluate the extent to which the Program speaks to its intended content and objectives.

Additionally, the accreditation process requires program assessment, as SACS-COC comprehensive standard 8.2.b states that for general education competencies, the university must “identify expected outcomes, assess the extent to which it achieves these outcomes, and provide evidence of seeking improvement.” (SACS-COC, Resource Manual for the Principles of Accreditation, 2018, p. 70).

In that spirit, this assessment report provides data regarding the extent to which WCU students are demonstrating the university’s general education student learning outcomes in the C5 (Physical and Biological Sciences) and P5 (Fine and Performing Arts) categories.

2. Liberal Studies Learning Outcomes

It is important to note that, while the Liberal Studies Committee adopted revised student learning outcomes in February 2018, faculty teaching in the C5 and P5 Liberal Studies categories were notified about assessment before the adoption of the newer outcomes. As such, C5 and P5 courses were assessed against an older version of the program outcomes (outlined below).

<table>
<thead>
<tr>
<th>The Learning Goals for the Liberal Studies Program are for students to demonstrate the ability to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Locate, analyze, synthesize, and evaluate information.</td>
</tr>
<tr>
<td>#2 Interpret numeric, written, oral, and visual data.</td>
</tr>
<tr>
<td>#3 Read with comprehension; write and speak clearly, coherently, and effectively; adapt modes of communication appropriate to an audience.</td>
</tr>
<tr>
<td>#4 Analyze arguments critically.</td>
</tr>
<tr>
<td>#5 Recognize behaviors, and define choices that affect lifelong well-being</td>
</tr>
<tr>
<td>#6a Understand past human experiences and their relation to the present.</td>
</tr>
<tr>
<td>#6b Understand different contemporary cultures and their inter-relationships.</td>
</tr>
<tr>
<td>#6c Understand issues involving social institutions, interpersonal and group dynamics, human development and behavior, and cultural diversity.</td>
</tr>
<tr>
<td>#6d Understand scientific concepts and methods, as well as contemporary issues in science and technology.</td>
</tr>
<tr>
<td>#6e Understand cultural heritage through its expressions of wisdom, literature and art, and their roles in the process of self and social understanding.</td>
</tr>
<tr>
<td>#7 Demonstrate an excitement for and love of learning.</td>
</tr>
</tbody>
</table>
3. Assessment Methodology and Timeline

In early October 2017, the Liberal Studies Program surveyed all C5 and P5 faculty and asked them to identify up to two Liberal Studies outcomes they believed best aligned with their particular course material.

Based upon the results of that survey, the Liberal Studies Committee chose one outcome per category to assess in Spring 2018. The selected outcomes appear in the box below.

C5 – Outcome #6d(i)

Demonstrate an understanding of scientific concepts and methods.

P5 – Outcome #6e

Demonstrate an understanding of cultural heritage through its expressions of wisdom, literature, and art, and their roles in the process of self and social understanding.

One month later (in November 2017), all faculty scheduled to teach C5 and P5 courses in the spring of 2018 were notified that their course would be part of Liberal Studies assessment in the upcoming semester. At that time, faculty were asked to identify a student assignment (artifact) in their spring course that spoke to the chosen learning outcome for their category. They were also provided a rubric for this outcome and informed that the rubric would be utilized in the assessment of the artifacts.

At the start of the spring 2018 semester, C5 and P5 instructors were sent detailed instructions regarding the electronic submission of their student artifacts (artifacts were to be submitted to and stored on the H-Drive), and they were asked to submit all artifacts by April 30, 2018. In addition to the artifacts themselves, faculty were asked to submit both a course syllabus and instructions for the assignment being assessed.

On July 10-11, 2018, twelve faculty volunteers, representing a variety of departments and programs throughout the university, attended a workshop for the purpose of scoring all C5 and P5 artifacts. Each faculty assessor received $400.00 for their time and effort. At the workshop, faculty were divided into six teams of two, and each team was given approximately 75 artifacts to score, with the artifacts divided between the C5 and P5 categories.

The type of artifacts varied widely and included student-generated PowerPoints, research papers, multiple choice exams, short answer exams, brief reflection papers, and short written responses to targeted questions. To address issues of inter-rater reliability, faculty pairs worked together to arrive at a common scoring decision for each artifact, and all scores were entered into a customized Blackboard gradebook (created specifically for this purpose). After scoring each set of artifacts from a particular course, the team then answered a series of questions related to those artifacts and to the course syllabus (See the appendix for a copy of those survey questions).
4. C5 – Quantitative Data

Faculty from 15 C5 courses were asked to submit student artifact assignments. Ultimately, twelve faculty submitted and three didn’t. Out of the 12 faculty who submitted artifacts, eight faculty submitted artifacts of a sufficient quality to be scored. Please note that, for the purposes of the assessment process, a “quality” artifact is one that is complete, easily accessible in an electronic format, and able to be understood and scored by assessors from a variety of disciplinary backgrounds.

A total of 221 artifacts were scored in the C5 assessment, representing the entire population of quality artifacts received. These artifacts were submitted by instructors of the following courses:

AST 103 – The Solar System  
AST 104 – Cosmic Evolution  
BIOL 140 – Principles of Biology I (two different sections)  
CHEM 139 – General Chemistry I  
PHYS 105 – Contemporary Physics

All artifacts were scored against the following outcome and associated rubric.

| 6G: Demonstrate an understanding of scientific concepts and methods |
|-------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| No score | Emerging | Developing | Achieving | Exemplary |
| A score of 0 (zero) designates irrelevancy of the category to the assignment, or folders and/or content cannot be viewed or assessed. | Student demonstrates a flawed understanding of scientific concepts and methods. | Student demonstrates a basic understanding of some but not all scientific concepts and methods, and/or may have difficult recognizing the connections between concept and method. | Student demonstrates an understanding of scientific concepts and methods and recognizes connections between them. | Student demonstrates a refined understanding of scientific concepts and methods, and recognizes connections between them in clear, thoughtful, and precise ways that exceed expectations. |

The tables on the next page contain the C5 scoring results and related descriptive statistics.
C5 - Physical and Biological Sciences  
Frequency of Scores

<table>
<thead>
<tr>
<th>Score Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Score (0)</td>
<td>8</td>
<td>3.6%</td>
</tr>
<tr>
<td>Emerging (1)</td>
<td>29</td>
<td>13.1%</td>
</tr>
<tr>
<td>Developing (2)</td>
<td>67</td>
<td>30.3%</td>
</tr>
<tr>
<td>Achieving (3)</td>
<td>55</td>
<td>24.9%</td>
</tr>
<tr>
<td>Exemplary (4)</td>
<td>62</td>
<td>28.1%</td>
</tr>
</tbody>
</table>

In summary,

- 53% of C5 artifacts were rated as either Achieving or Exemplary.
- 43% of C5 artifacts were rated as either Emerging or Developing.
- Approximately 4% of C5 artifacts received no score because the faculty assessors determined that the artifact was irrelevant to the goals of the rubric.

The data suggest that the majority of students in the C5 category are either achieving or surpassing expectations when it comes to demonstrating their understanding of scientific concepts and methods.

5. Review of C5 Course Syllabi

Instructors from the six reviewed C5 courses were asked to submit a syllabus as part of the assessment process, and five of six instructors did so.

Based upon the Liberal Studies syllabus template guidelines (accessible through both the Liberal Studies and Coulter Faculty Commons websites), the faculty assessors expected that each syllabus would include a general statement that this was a Liberal Studies course, an indication that the course fulfilled the C5 category, and a listing of only the most relevant Liberal Studies student learning outcomes to that course. Assessors were also asked to indicate whether a syllabus included the full list of Liberal Studies student learning outcomes instead, or indeed, if a syllabus did not include any outcomes at all.
As the table below indicates, the majority of C5 course syllabi included a general statement on Liberal Studies, and three out of five instructors noted specifically that their course fulfilled the C5 requirement. These results are encouraging and show improvement when compared to syllabi reviewed in previous assessment reports. However, the wide variability in outcomes inclusion suggests a need for continued communication with faculty regarding Liberal Studies language within their syllabi.

<table>
<thead>
<tr>
<th>Course</th>
<th>General Statement on Liberal Studies</th>
<th>C5 Description</th>
<th>Liberal Studies Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
<td>Absent</td>
<td>Present</td>
</tr>
<tr>
<td>AST 103</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AST 104</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BIOL 140</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHEM 139</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PHYS 105</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

6. C5 -- Qualitative Data

After scoring a course’s artifacts and reviewing its syllabus, assessors were asked to provide comments regarding:

- The extent to which the artifact assignment aligned with the SLO being measured
- Suggestions for improving the alignment between artifact and SLO (if needed)
- The quality of the artifact (meaning was the artifact easy to access and view, and was it an artifact able to be scored by someone outside the discipline?), and
- General suggestions or compliments regarding the artifact design.

In the interest of providing helpful feedback and continuous improvement within the curriculum, the Liberal Studies Assessment Director will provide the relevant department heads with the specific course-level qualitative and quantitative data for their respective programs.

Generally speaking, though, the following recommendations appeared consistently throughout the C5 qualitative assessment.

- First, faculty assessors indicated that, while the majority of C5 artifacts demonstrated a connection between assignment and outcome, many of those alignments could have been stronger and more robust.
- Second, the assessors suggested that instructors provide more context regarding the instructor’s artifact design and assignment goals.
• Third, the assessors expressed reservations about the use of multiple-choice exams as an assessment artifact for two primary reasons:

  a) They were unsure which questions on a very long exam actually pertained to the outcome being measured, and they desired more clarity on that point. Several assessors noted that they tended to be more generous with their scoring because of this uncertainty.

  b) Assessors requested that, if multiple choice exams continue to be submitted as artifacts, instructors should provide an answer key, so that the assessors can know which questions are correct and incorrect (as an aside, some of the multiple-choice exams submitted did include answer keys, but some did not).

• Fourth, assessors suggested that, in the interest of anonymity, identifying information be removed from student artifacts before students submit those assignments to Blackboard.

7. P5 – Quantitative Data

Faculty from 13 P5 courses were asked to submit artifacts, and nine did so. Out of the nine faculty who submitted artifacts, eight faculty submitted artifacts of a sufficient quality to be scored. Again, please note that, for the purposes of the assessment process, a “quality” artifact is one that is complete, easily accessible in an electronic format, and able to be understood and scored by assessors from a variety of disciplinary backgrounds.

Ultimately, a total of 216 artifacts were scored in the P5 assessment, representing the entire population of quality artifacts received. These artifacts were submitted by instructors of the following courses:

ART 104 – Introduction to the Visual Arts (three sections)
DA 259 – Dance Appreciation
MUS 304 – Jazz Appreciation (two sections) – Upper Level Perspective
THEA 104 – The Theatre Experience (two sections)

All artifacts were scored against the following outcome and associated rubric.

<table>
<thead>
<tr>
<th>6E: Demonstrate an understanding of cultural heritage through its expressions of wisdom, literature, and art and their roles in the process of self and social understanding.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No score</strong></td>
</tr>
<tr>
<td>A score of 0 (zero) designates irrelevancy of the category to the assignment, or folders and/or content cannot be viewed or assessed.</td>
</tr>
</tbody>
</table>
The tables below contain the P5 scoring results and related descriptive statistics:

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5 Artifacts</td>
<td>216</td>
<td>.00</td>
<td>4.00</td>
<td>1.9</td>
<td>2</td>
<td>.8917</td>
</tr>
</tbody>
</table>

In summary,

- 23% of P5 artifacts were rated as either Achieving or Exemplary.
- 72% of P5 artifacts were rated as either Emerging or Developing.
- 5% of P5 artifacts received no score because the assessors determined that the artifact was irrelevant to the goals of the rubric.

The data indicate that almost three-quarters of P5 students are at the early or developing stages regarding their ability to demonstrate their understanding of the cultural heritage learning outcome.

8. Review of P5 Syllabi

Instructors of the eight reviewed P5 courses were asked to submit a syllabus as part of the assessment process, and seven of eight did so.

Based upon the Liberal Studies syllabus template guidelines (accessible through both the Liberal Studies and Coulter Faculty Commons websites), the faculty assessors expected that each syllabus would include a general statement that this was a Liberal Studies course, an indication that the course fulfilled the P5
category, and a listing of only the most relevant Liberal Studies student learning outcomes to that course. Assessors were also asked to indicate whether a syllabus included the full list of Liberal Studies student learning outcomes instead, or indeed, if a syllabus did not include any outcomes at all.

The results suggest a need for stronger communication between the Liberal Studies Program and the P5 faculty in terms of syllabus expectations. While it is encouraging that many of the P5 syllabi contain a general statement on Liberal Studies, along with an indication that the course fulfills the P5 requirement, the majority of P5 syllabi include absolutely no mention of the Liberal Studies student learning outcomes.

<table>
<thead>
<tr>
<th>Course</th>
<th>General Statement on Liberal Studies</th>
<th>P5 Description</th>
<th>Liberal Studies Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
<td>Absent</td>
<td>Present</td>
</tr>
<tr>
<td>ART 104</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ART 104</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DA 259</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MUS 304</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>MUS 304</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THEA 104</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>THEA 104</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

9. P5 -- Qualitative Data

After scoring each set of artifacts, assessors were asked to provide comments regarding:

- The extent to which the artifact assignment aligned with the SLO being measured
- Suggestions for improving the alignment between artifact and SLO (if needed)
- The quality of the artifact (meaning was the artifact easy to access and view, and was it an artifact able to be scored by someone outside the discipline?), and
- General suggestions or compliments regarding the artifact design

And as with the C5 results, in the interest of providing helpful feedback and continuous improvement within the curriculum, the Liberal Studies Assessment Director will provide the relevant department heads with specific course-level qualitative and quantitative data for their respective programs.

In general, though, the following recommendations appeared consistently throughout the P5 qualitative assessment.

- First, there was wide variation in the alignment between P5 artifact assignments and outcome #6E. Several assessors lauded one specific P5 course for its very strong alignment between artifact and the outcome. At the same time, other P5 artifact assignments were rated as demonstrating little to no apparent connection between the artifact design and outcome, while others still were ranked as having a definite connection, although the alignment could be made more robust.
Second, assessors requested that course instructors include their assignment instructions and answer keys (if relevant) with the submitted artifacts. On several occasions, instructions and/or an answer key were not included, and this made it more difficult for faculty scorers to evaluate whether a student was demonstrating an understanding of cultural heritage.

Third, assessors suggested that, in the interest of anonymity, identifying information be removed from student artifacts before students submit those assignments to Blackboard.

Fourth, assessors recommended that future artifacts need to be fully integrated into the course as an assignment, rather than offered only as an extra credit assignment.

Fifth, faculty assessors also noted the broad definition within the cultural heritage outcome itself, and most agreed that this was a difficult outcome to measure because its rubric language was fairly vague, yet it contained so many definitional components. For that reason, assessors suspected that the scoring data generated may not reflect actual student achievement in some cases.

10. Summary of Recommendations

This annual assessment process attempted to answer the question -- **to what extent are students demonstrating the stated outcomes in the P5 and C5 categories of the Liberal Studies Program?**

Both the quantitative and qualitative data certainly offer insight into this question, but also suggest lingering concerns regarding data validity. The C5 data, for instance, indicate that over 50% of students are at least achieving a demonstrated understanding of the scientific method and concepts. That is an encouraging result, especially for a group of 100-level courses, but it should be considered against the caveat that the assessors felt they were sometimes too generous in their scoring of the multiple-choice exams that dominated C5 artifact submission. When the assessors were uncertain as to which questions on an exam spoke directly to the outcome, they tended to give the artifact the benefit of the doubt and offer a higher score.

Alternately, the P5 data indicate that a large majority of students are still emerging or developing in their understanding of cultural heritage, despite the fact that two of the courses included within the assessment were 300 level courses. As the assessors noted, however, it is worth considering that the rubric for this particular learning outcome was daunting in its number of measurable components. At the same time, the assessors also stated that several of the P5 artifact assignments did not align directly with the outcome and associated rubric, which may help also to account for the lower scores in the P5 category.

Ultimately, the information within this report suggests that the Liberal Studies Program must continue to work in tandem with instructors and departments to refine the artifact design process in the hopes of improving future assessment efforts. Indeed, this dynamic is already underway, given the current university-wide implementation of the newly revised Liberal Studies learning outcomes and rubrics. Moreover, the recent creation of the Liberal Studies Assessment Director position, as a central coordinator for outcome measurement, will allow for more consistent communication regarding the expectations and evaluation of the university’s general education program.

A summary list of recommendations appears on the next page.
Recommendations

1. **The Liberal Studies Program** should continue its efforts to enhance communication with departments regarding Liberal Studies-related language in syllabi, with a specific focus on the inclusion of relevant learning outcomes for the course.

2. **The instructions for the artifact submission process** need to emphasize the desire for student anonymity, as well as the need for more detailed context and instruction regarding assignment design. Additionally, if an exam is submitted as an artifact, instructors should be reminded to include an answer key and direction as to which exam questions most directly align with the outcome being measured.

3. **The Liberal Studies Program must continue faculty outreach and communication to strengthen the relationship between artifact design and a particular outcome/rubric.** This would help address some of the data validity concerns that emerged during this annual assessment process.

4. **The Liberal Studies Committee should consider establishing scoring expectations for its program outcomes.** Without any stated expectations, interpreting the results of the P5 and C5 quantitative data is challenging. This recommendation is especially significant in light of the fact that the Liberal Studies Program will be required to submit Continuous Improvement Reports in the future, and those reports ask specifically for desired level of achievement/performance on a particular outcome.

5. **Assessment-related technology concerns need to remain a priority.** WCU’s Blackboard and Information Technology staff very generously improvised an assignment submission and scoring software framework for the Liberal Studies Assessment process. However, due to staff continuity issues and the technological limitations of Blackboard, it is uncertain whether this framework will continue to work as efficiently in future LS assessment efforts. It is worth searching for alternative scoring software, if institutionally feasible.

6. **The Liberal Studies Program should continue to search for a viable means of measuring student performance against the outcomes over time.** Due to technical limitations in the submission of student artifacts, the Liberal Studies Program has presently no feasible way of connecting an artifact with a student’s year at the university. As a result, the assessment process cannot differentiate between the performance of a first-year student v. a fourth year student, making it very difficult to measure student improvement over time within the program.
APPENDIX: C5 and P5 Assessor Survey

Q1. Please choose the Liberal Studies category for this group of artifacts.
   - C5
   - P5

Q2. Please identify on which scoring team you are serving.
   - Team 1
   - Team 2
   - Team 3
   - Team 4
   - Team 5
   - Team 6

Q12. Please identify the artifact number.
   - Artifact 1
   - Artifact 2
   - Artifact 3
   - Artifact 4
   - Artifact 5
   - Artifact 6

Q3. SYLLABUS -- Did the instructor's syllabus contain a section with language in which they stated clearly that this course counts as a Liberal Studies course?
   - Yes
   - No
   - N/A - No syllabus available

Q4. SYLLABUS -- Did the instructor's syllabus state that the class counted for a particular category of Liberal Studies (either P5 or C5)?
   - Yes
   - No
   - N/A - No syllabus available
## Q5
SYLLABUS -- Did the instructor's syllabus mention that student work from the course might be assessed in the context of the Liberal Studies program?
- Yes
- No
- N/A - No syllabus available

## Q6
SYLLABUS -- Did the instructor identify Liberal Studies outcomes on the syllabus?
- Yes, they included a full list of all Liberal Studies outcomes.
- Yes, but they included only those Liberal Studies outcomes that were relevant to the course.
- No, they didn't include any Liberal Studies outcomes.
- N/A - No syllabus available

## Q7
ARTIFACT -- Did the instructor provide you with the assignment guidelines/instructions?
- Yes, they provided very clear and thorough guidelines/instructions.
- Yes, they provided guidelines/instructions, although they were not always detailed enough to be helpful for assessment.
- No, they did not provide assignment guidelines/instructions.

## Q8
ARTIFACT -- How well did the assignment demonstrate its chosen learning outcome? In other words, did this assignment provide a strong connection with the outcome it was designed to measure?
- The connection between the assignment and outcome was obvious, clear, and strong.
- There is a connection between the assignment and outcome, but it could have been stronger and more obvious.
- There was little to no apparent connection between the assignment and outcome.

## Q9
ARTIFACT -- Do you have any suggestions for improving the design of the artifact assignment so that it more closely relates to the relevant learning outcome?

## Q10
ARTIFACT -- How did you find the quality of the artifact? For instance, was it easy to read or view? Was its content easy to understand from the perspective of someone who may not teach in the same discipline?

## Q11
GENERAL -- Do you have any other comments or suggestions relating to the scoring, syllabus, or general assessment of this particular group of student artifacts?