

Charlotte Teachers Institute Curriculum Unit Analysis Report for 2011-2012 Cohort

Prepared for Charlotte Teachers Institute

Submitted by

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Curriculum Unit Analysis Report

Purpose

As part of the larger program evaluation project being conducted regarding the impact of Charlotte Teachers Institute (CTI), one component was to examine the CTI-inspired Curriculum Units (CUs). As part of the mission of CTI, through semester-long seminars, CMS educators participate as Fellows and develop CUs as a direct result of the culmination of institutional resources and collaboration with other teachers. To date, CTI Fellows have written more than 200 CUs that are published on the organization's website and readily available worldwide. The purpose of the CU Analysis report is to answer the research questions aligned with understanding the CU process, how it impacts the Fellow's learning and teaching, and if the CUs written are aligned to CTI standards.

Overarching Research Questions

This component of the overall CTI evaluation attempts to address the following overarching research questions:

- Does the Curriculum Unit (CU) reflect the content knowledge that teachers have developed over the course of the seminar? (RQ5)
- Does the CU reflect the teachers' pedagogical expertise and the collegial, collaborative experience of the seminar? (RQ6)

CTI Expectations of Curriculum Unit

For the 2011-2012 CTI Fellow cohort, five specific expectations were expressed in the *Elements of a Curriculum Unit* section of the Fellows Handbook. These expectations were as follows:

1. Content objectives a clear statement of what the unit seeks to achieve
2. Teaching strategies a unified, coherent teaching plan for those objectives
3. Classroom activities three or more detailed examples of actual teaching methods or lesson plans
4. Resources three annotated lists of materials reviewed: a bibliography for teachers, a reading list for students, and a list of materials for classroom use. You should explain in the prose section of the unit how these resources relate to your objectives.
5. Appendix -- no more than one page in which you briefly annotate - and not merely list - those school district academic standards your unit will implement in a significant way. Please title this appendix Implementing District Standards.

Data Collection & Procedures

After the CU's were published on the CTI website in May 2012, the Lead Researcher reviewed 77 CUs that were created from Fellows across 8 Seminars. Each CU was read and reviewed for the following information:

- Subject Area(s) Identified
- Grade level(s) Identified
- CU Page Length

- Number of References used (teacher, student, works cited)
- Number of Strategies
- Number of Activities
- District/State Standards Identified
- Listing of State/District Standards

The data collected was then inserted into a table for each Seminar. The aforementioned categories were created in order to see the extent to which the above stated expectations for the units were being met and to what extent each Seminar displayed differences/similarities in the development of their CUs. After the initial findings of this data, the evaluation team conferred to discuss the interpretations of the data.

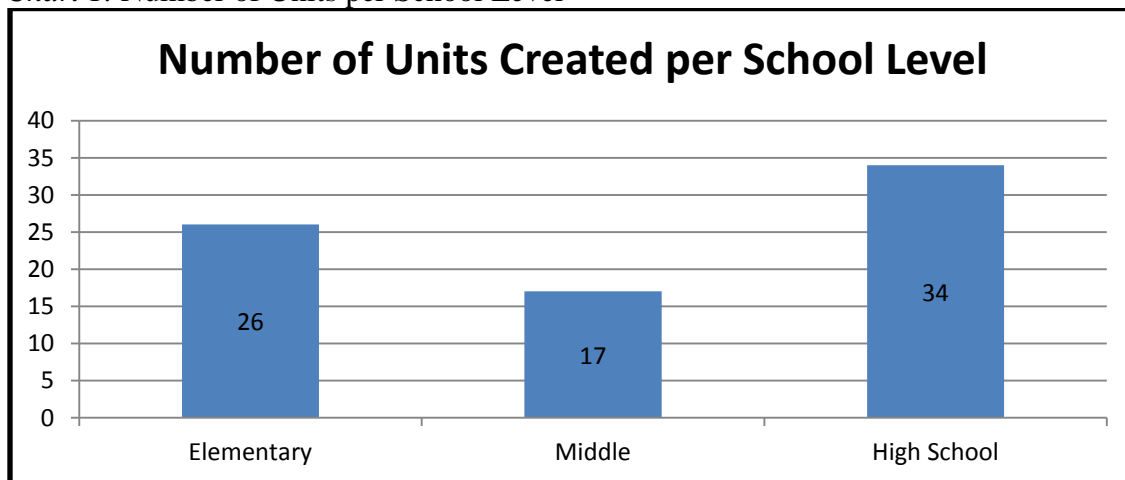
Findings: Aggregate Data

Averages for the CUs

In totaling all of the CUs for the 2011-2012 Fellow cohort, of the 77 CUs reviewed, the average page length for CUs (including references, citations, and endnotes) was 21 pages. The average number of resources used (including resources for teachers, students, and references and excluding endnotes) was 20 resources. There was an average of 6 strategies discussed in the CUs and 8 activities proposed for implementation throughout the units.

Of the 77 units reviewed, CTI Fellows indicated the school levels for each unit. From the information provided, 34 units (44%) will be used for high school curriculums, 26 units (34%) will be used for elementary curriculums, and the remaining 17 units (22%) will be used for middle school curriculums. Based on the information, it can be concluded that the majority of units created were implemented for high school level curriculum (See Chart 1).

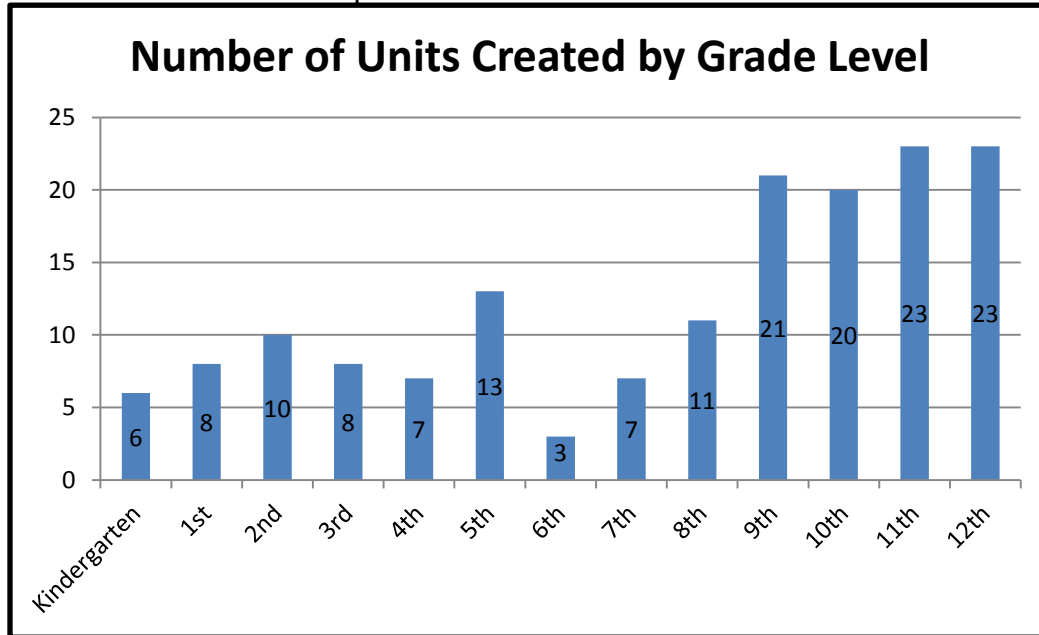
Chart 1. Number of Units per School Level



Of the 77 units reviewed, CTI Fellows were asked to identify the grade level(s) in which the unit could be taught. Thirty-three CUs (21%) were developed for multiple grade levels which created the total count for the number of units created by grade level to 160. Chart 2 provides the number of units indicated per grade level. The most created units (14%) could be taught in 11th or 12th

grade; the least created units were for 3rd and 7th grade. This data is congruent to *Chart 1* indicating that high school level CUs were the majority.

Chart 2. Number of Units per Grade Level



CTI Fellows were asked to specify the subject areas for which the CUs were created. Chart 3 illustrates these subject areas in order from greatest to least number of units in each field. From the information provided, it can be concluded that the majority of units were created for Science (19%) and the least were created for Marketing, Media Specialists, and Music.

Chart 3. Number of Units per Subject Area

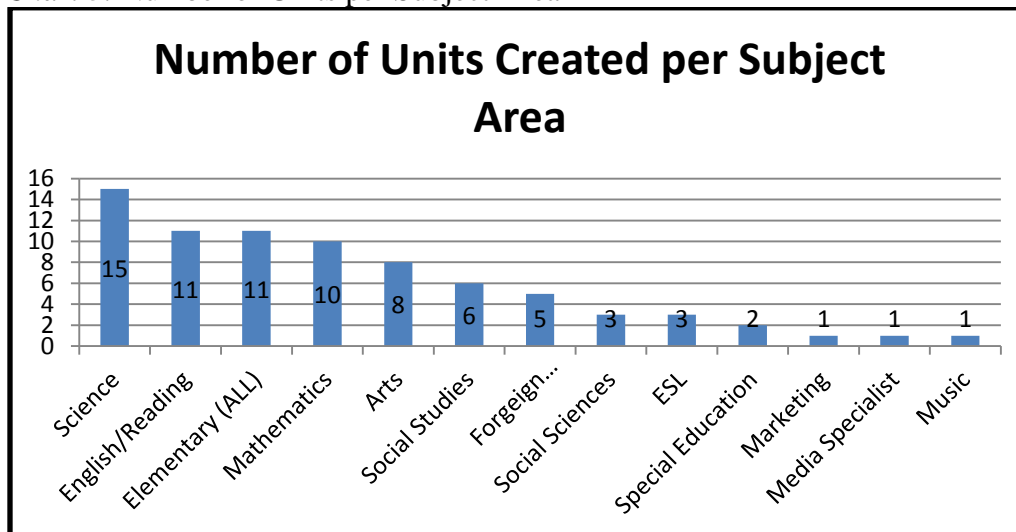


Chart 4 illustrates the number of units created per type of course. Most prominent are the standard course CUs which represent 71% of the units written. Next, advanced courses (which were identified as Honors, IB, and AP level) represented 21% of the units written. Lastly,

Special Needs type courses (consisting of Special Education, Exception Children, or ESL) represented only 8% of the CUs written. From the information provided, it can be concluded that while CUs created address all types of courses, the most common type is the standard course.

Chart 4. Number of Units per Type of Course

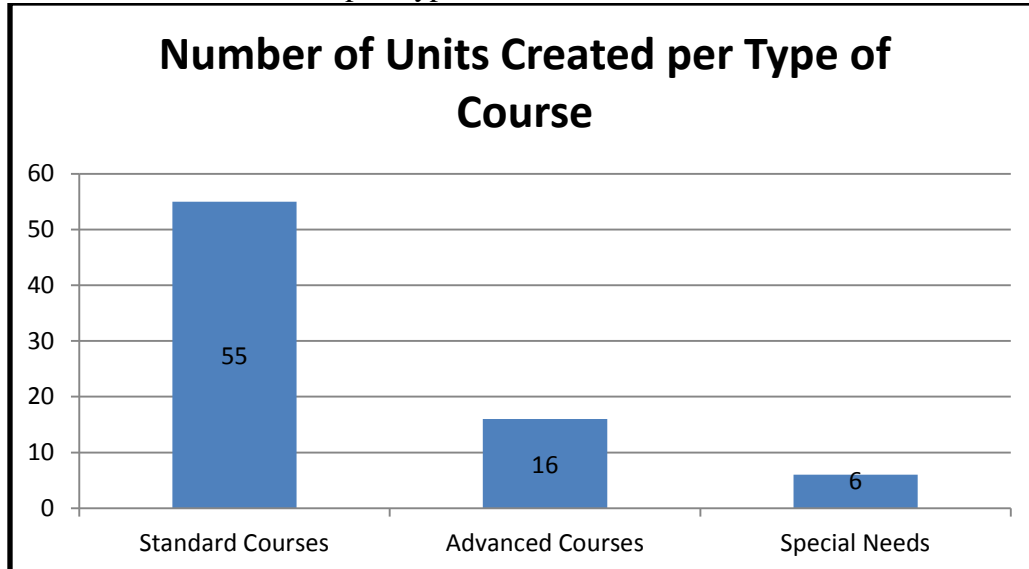


Chart 5 represents the page length ranges for the CUs. Most frequently, CUs were 16-20 pages in length (44%) and next frequent were 21-25 pages in length (32%). The lesser frequencies represent CUs that were 26-30 pages (12%) and CUs that were 11-15 pages (12%). The majority of CUs were between 16-25 pages in length, including the resources and reference lists.

Chart 5. Length of CUs (Interval Scale)

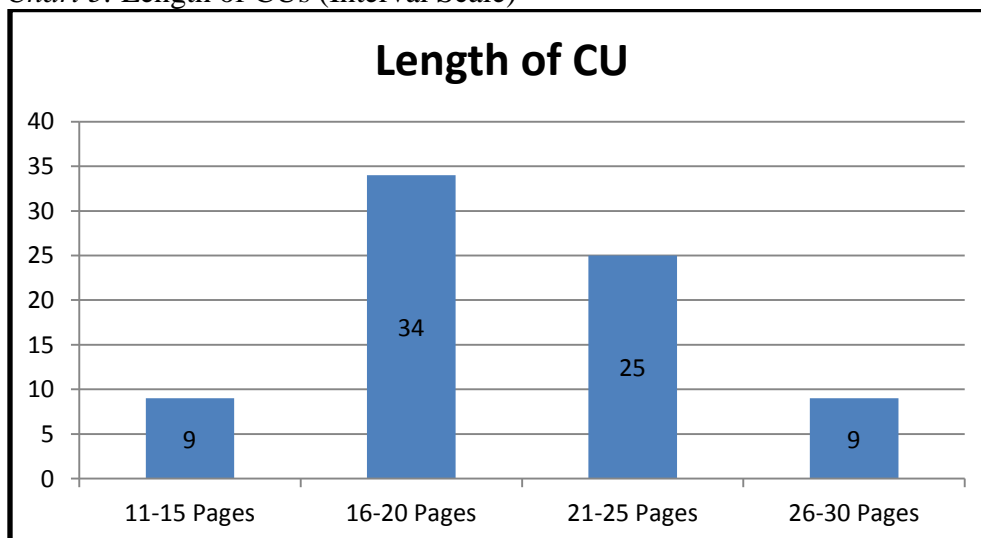


Chart 6 illustrates the ranges for the number of resources (e.g. classroom materials, materials for teachers, and materials for students) in each CU. The most frequent range was that of 10-20

resources (42%), and followed by less than 10 resources (22%), and 21-30 resources (21%). Lesser frequent ranges were as follows: 31-40 resources (9%), 41-50 resources (3%), 61-70 resources (3%), and 51-60 resources (1%).

Chart 6. Number of Resources Used

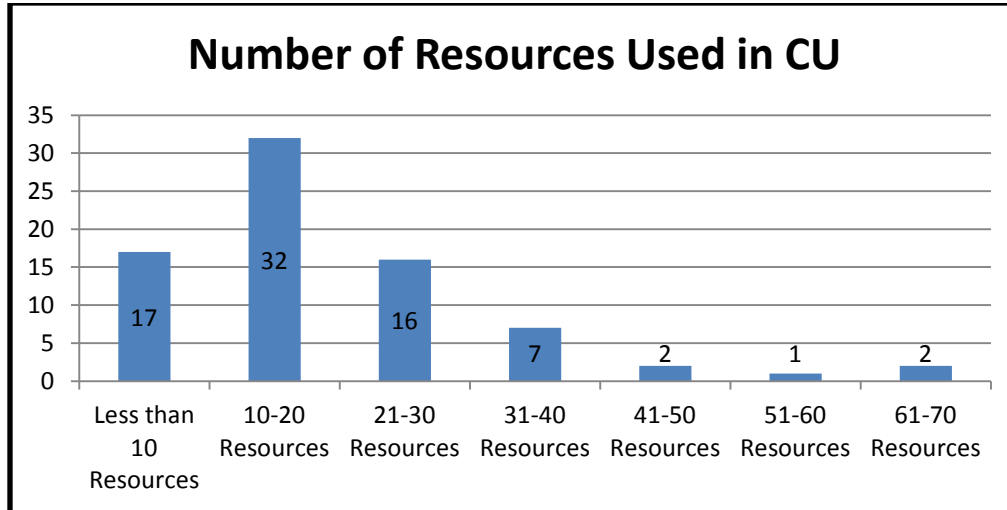


Chart 7 illustrates the ranges and frequency for the number of teacher strategies discussed in each CU. The most frequent range was 4-6 strategies (36%), and following, 1-3 strategies (29%), 7-9 strategies (23%), 10-12 strategies (5%), 13-15 strategies (4%), and 16-18 strategies (3%). It can be concluded that the majority of the CUs created illustrated 1-9 strategies (88%) and there were a few instances where CUs created illustrated 10-18 strategies (12%).

Chart 7. Number of Strategies

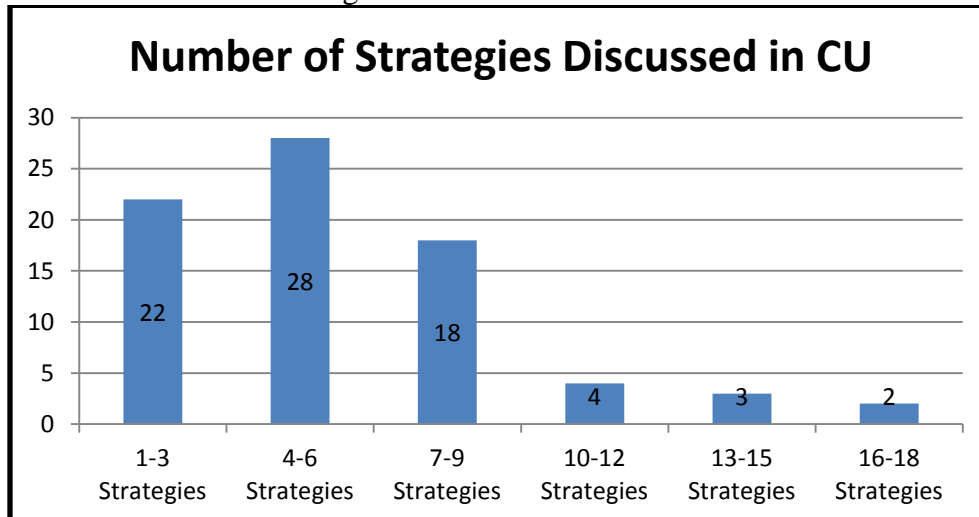


Chart 8 illustrates the ranges for the number of classroom activities discussed in each CU. The most frequent instance was 4-6 activities representing 32% of the CUs created and followed by 7-9 activities (23%), 10-12 activities (17%), 1-3 activities (13%), 13-25 activities (6%), (16-18 activities (3%), 19-21 activities (3%), 22-24 activities (1%), and 25-27 activities (1%).

Chart 8. Number of Activities

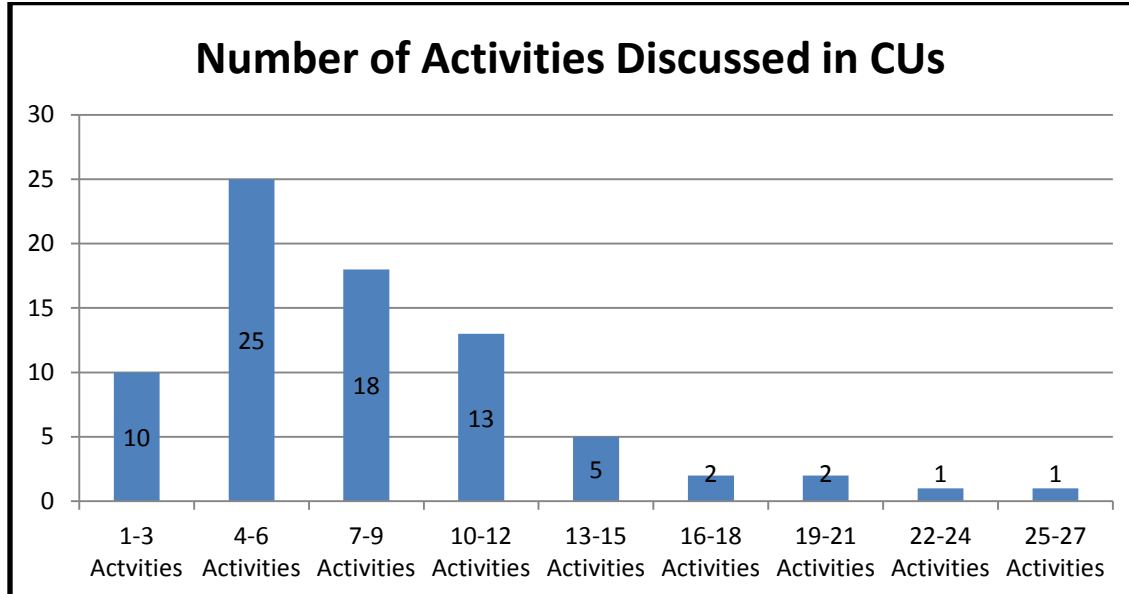
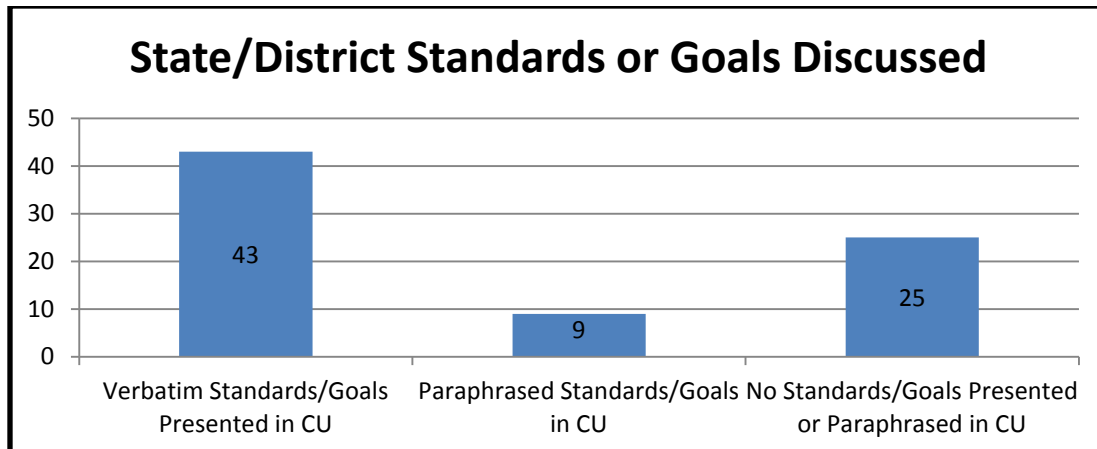


Chart 9 illustrates the amounts of CUs that had state/district standards or goals present, paraphrased, or not at all. The most frequent occurrence was “verbatim standards/goals presented in the CU” (56%). In addition, 12% of the CUs had paraphrased standards/goals inside the content of the CU. Most notably, 32% of the CUs did not have standards/goals listed or paraphrased in any parts of the CU created.

Chart 9. State/District Standards or Goals Discussed



Seminar Averages

Chart 10 illustrates the average number of pages in CUs for each seminar as well as the average number of resources used for each seminar. In terms of page length, on average, the *Chemistry that Surrounds Us* seminar led in the highest average number of pages

In terms of resources used, on average, *The Art and Life of Romare Bearden* and *Playful Response to Stories* were highest.

Chart 10. Averages for Number of Pages in CU and Number of Resources Used

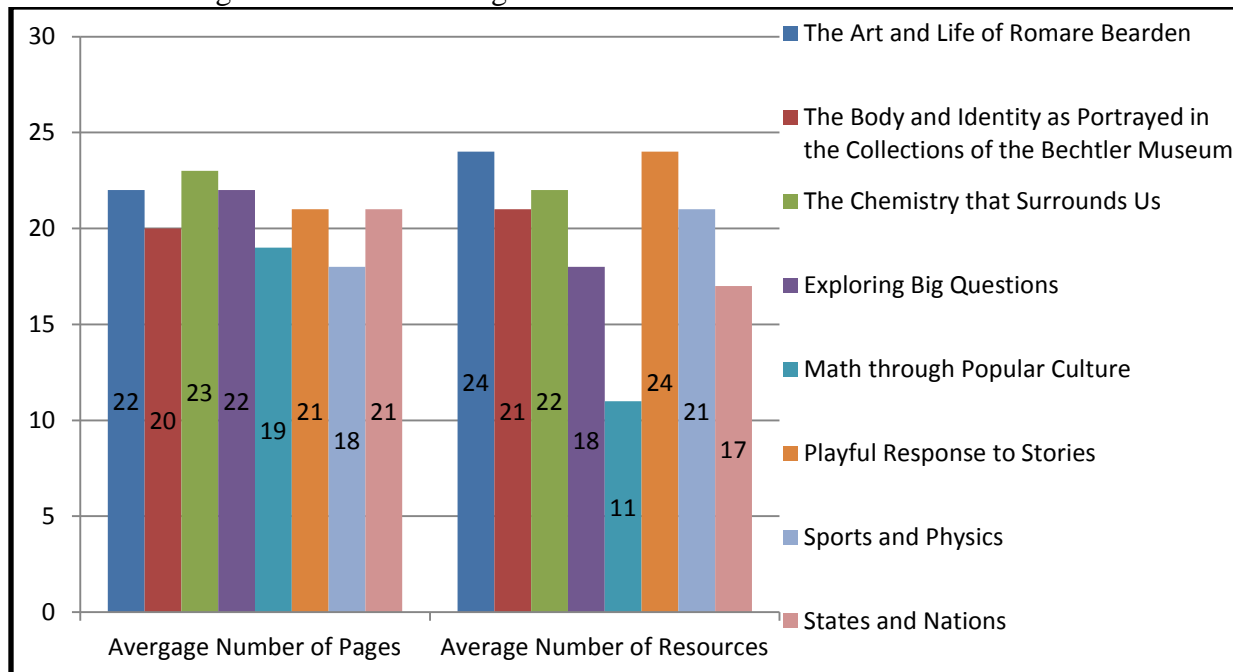
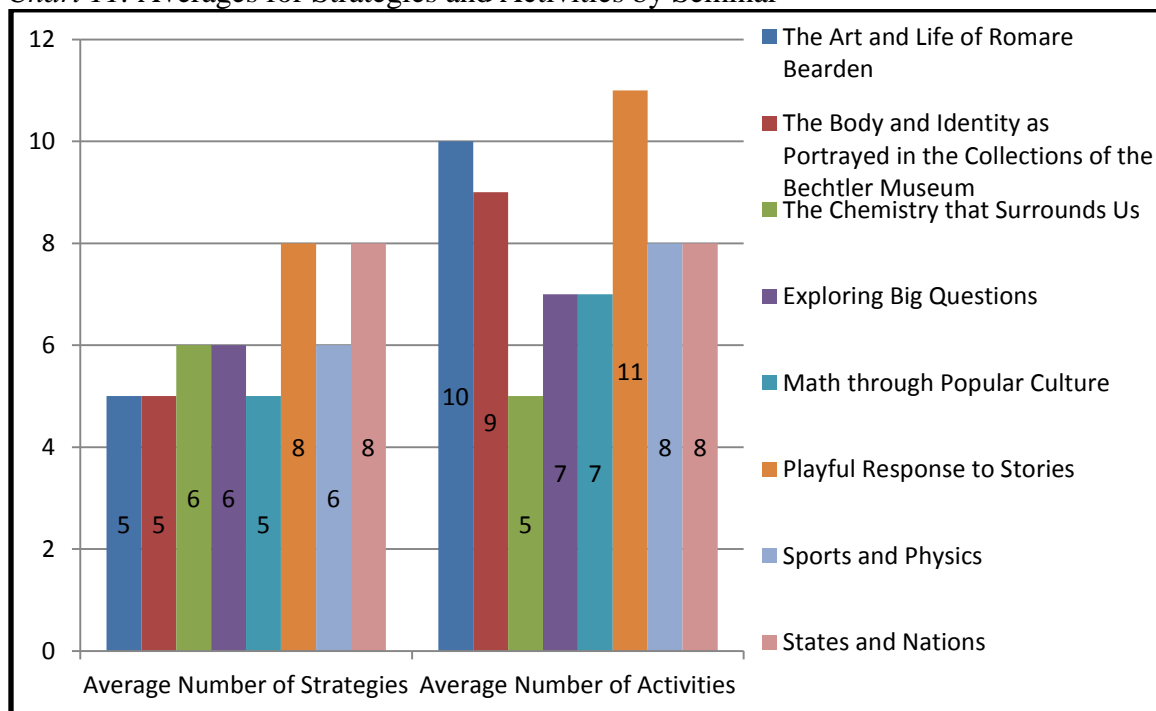


Chart 11 illustrates, by seminar, the average number of strategies and activities discussed in the CUs created. In terms of the average number of strategies discussed, CUs coming from the *Playful Response to Stories* and *States and Nations* ranked highest. Following: *Chemistry that Surrounds Us*, *Exploring Big Questions*, and *Sports and Physics* tied for 2nd ranking. The last three seminars, *The Art and Life of Romare Bearden*, *The Body and Identity as Portrayed in the Collections of the Bechtler Museum*, and *Math through Popular Culture* tied for last.

In terms of the average number of activities discussed, CUs coming from the *Playful Response to Stories* ranked highest. *The Art and Life of Romare Bearden* and *The Body and Identity as Portrayed in the Collections of the Bechtler Museum* tied for 2nd ranking. Next, *Sports and Physics* and *States and Nations* tied for 3rd ranking amongst the average number of activities used in CUs by Seminar. Ranked last was the *Chemistry that Surrounds Us* seminar for having the smallest average number for activities discussed in CUs.

Chart 11. Averages for Strategies and Activities by Seminar



Discussion of the Findings

With the descriptive data from each seminar, responses to the posed research questions can be addressed. This section will pose the research questions and an answer that stems from the data findings.

Does the Curriculum Unit reflect the content knowledge that teachers have developed over the course of the seminar?

The answer is yes. This is apparent in the extent of resources that are used in crafting each unit. Of the 77 units reviewed, 78% used more than 10 resources to develop the content in their unit. Additionally, in reviewing the length of pages used in creating the CUs, the majority (88%) of the units were 16-30 pages. This fact demonstrates that the units are content- and resource-rich with information.

Does the Curriculum Unit reflect the teachers' pedagogical expertise and the collegial, collaborative experience of the seminar?

The answer is yes. This assertion is supported by the extent to which activities and strategies are discussed in the CUs. Of the 77 units reviewed, 71% of the units created used 4-18 strategies and this when reviewing the average number of strategies discussed per seminar. While it can be argued that not all seminars were solely focused on discussing strategies, there were consistent numbers that allude to pedagogical practices being discussed in the seminars and demonstrated in the CUs. Additionally, the same can be asserted with the activities discussed: 87% of the units illustrated 4-27 activities. And, seminar-specific CUs also demonstrate that activities were a pertinent topic of discussion that translated to information found in the CU.

Are CUs Meeting CTI-set Expectations?

In each unit Fellows created a rationale section that discussed the aims of the CU. Additionally, some units did label a section of their unit “Content Objective” so the reader could easily navigate to the topic. In terms of meeting the expectation for Content Objectives, it can be concluded that this expectation was met.

As represented in Chart 7 above, all fellows displayed an array of teaching strategies in their units. Additionally, while there is no set number of teaching strategies that CTI and Teacher Leaders suggested, the majority of the CUs created illustrated at least 4-6 strategies. Also interesting to note, in many of the units, an elaboration of the strategies provided clear instructions and format for others to replicate. In terms of classroom activities, as represented in the charts listed above, a majority of the fellows discussed more than three activities in their units. Both the expectations of “Teaching Strategies” and “Classroom Activities” being illustrated in the CUs were met.

In terms of resources, all Fellows indicated reference materials for classroom, student, and teacher uses. However, a bibliography was not always presented with the specified topics. And, while some bibliographies were annotated with a sentence or two, not all units displayed the same level of consistency and clarity for readers of the CUs. In terms of the “Resources” section, not all CUs met the CTI expectation.

Lastly, the “Appendix” sections were supposed to illustrate district/state-level standards or goals that were implemented in the unit. As illustrated in the chart above, only 68% of the units created discussed these standards; meaning, this expectation was not met. Additionally, in terms of the way the standards or goals should be implemented, Fellows were asked to “not merely list” standards or goals. The percentage of units that explicitly followed the guidelines set for this section is then reduced to 12%. In closing, CUs did not meet the expectations for providing an Appendix section that annotates the ways in which state/district standards or goals were implemented.

Limitations

The first limitation of the study was that the instrument used to assess the CUs did not specify content objectives or the format in which content objectives were to be displayed. While it was asserted that the CUs had ample evidence to suggest that the expectation for Content Objectives were being met, a more conclusive tool needs to be developed.

The second limitation of this portion of the study includes the relationship between the content discussed in CUs and the CMS standards. As noted, not all CUs provided district/state standards or goals. This could partially be due to the fact that the seminar topic is not considered a core subject (e. g. art or philosophy). While it can be argued that Fellows could connect the information learned to various disciplines so that they meet CMS standards, it could be countered that there were limitations in stretching the standards.

Lastly, in terms of resources, strategies, activities, and content presented in the CUs, a Fellow’s level of teaching experience or expertise was not considered a variable. That said, a limitation is posed in assessing the ‘norm standard’ in terms of what constitutes a well-developed unit. Since

Fellows are from such diverse backgrounds with varied experiences, it could also be thoroughly difficult to set expectations on the number of strategies, resources, activities, or even how much content should be covered in a unit.

Recommendations

For Teacher Leaders

- *A cover page is needed for each Curriculum Unit.* For teachers who are browsing units, upon opening or viewing CUs, they should immediately know the subject- and grade-levels of the CUs. This will not only save time, but also eliminate confusion for appropriating the audience.
- *A Table of Contents along with clearly defined headings in the Curriculum Units will go a long way.* While the subjects/topics of units differ, a few headlines are unavoidable: Introduction of the Topic, Rationale, Objectives of the CU, Content Information, Teaching Strategies, Classroom Activities, Resources for Students, Resources for Teachers, Classroom Materials/Resources, Appendix, etc. This will not only help the flow of the CU, but it was also keep new readers in sync with how the unit should be implemented.
- *Introductory content and rationale for CU should be shortened and structured in a way to illustrate all school data objectively.* Perhaps a general page limit to how this unit personally impacted the fellow is needed. While it is important to understand the demographic of students and the background of the teacher in order to understand how this topic emerged, it should not be overly detailed. A page or less of personal information and rationale for teaching the unit could convey the same message to readers without *tainting* the image of students, schools, or districts. While it is common for teacher to describe their schools and population through a deficit model (e.g. I work in a school where majority of the students receive free and reduced lunch), Fellows need to be aware of the fact that these CUs are published and read by other educators both with similar and dissimilar school settings and student demographics.
- *Identify the audience more explicitly for which the CU was created.* Perhaps this section of the CU needs structured guidelines so that teachers can provide school and demographic profiles in a more objective fashion. It may be more beneficial for teachers to identify the demographics for which the CU was created.
- *Be clear with the expectations or guidelines of the Curriculum Unit.* Many of what cannot be solidified in the evaluation of the CUs is a direct result of fluctuating or vague language used in the guidelines. For example, the guide mentions a bibliography and an annotated bibliography, however, when it is the appropriate time to use one or both? And, what is the expectation for the annotated bibliography – a paragraph or a sentence? Additionally, while it may be a challenge to set numeric expectations on items such as strategies, activities, and resources, it may be necessary to ensure that every Fellow is exerting as much time and effort as the next.
- *References and resource materials should not be included in the page count of the Curriculum Unit.* There were a number of CUs that displayed an exhausted list of endnotes, resources, and references to be used – without directly mentioning the resources in the Content section. To ensure that Fellows are becoming content-rich on

their topic, the suggestion is that these resources along with other graphics that can take up more space not be included in the page count and submission of CUs.

- *Graphic illustrations, example hand-outs, and other resource materials should be placed in the Appendix section.* Too often, this type of content increased the page lengths of units and allowed some Fellows to ‘get away’ with writing less about their content. As a result, the unit may have been more strategy- or activity-centered as opposed to content-centered.
- *Agree upon the way in which state/district standards or goals should be implemented.* Should they be directly stated in the Appendix or paraphrased in the Content? This should be clear and concise across the seminars moving forward.
- *The Seminar Coordinator role should be increased with the process of writing CUs.* To ensure all Fellows are upholding guidelines set for the curriculum units, Seminar Coordinators should step in to make sure standards, strategies, activities, resources, and such are properly included. Since the Seminar Coordinator is considered to be a Teacher Leader in their seminar, it is assumed that they are more involved with state/district goals and standards and pedagogical ways to implement content.

For CTI Administrators

- *It needs to be made clear to CTI participants what exactly happens to their CTI curriculum unit. For one, these CUs are the teacher’s intellectual property. Secondly, if these CUs are published, it would benefit Fellows to know this so that they can make sure their CUs are at a high level of quality and can be viewed world-wide. In addition, these CUs not only represent the individual teacher, but they also represent their school, their district, their content area, and CTI. Knowing the audience for the CU’s beyond the classroom use, such as the fact that these units are published by Yale, would be useful information for Fellows to have as they create their CU.*
- *If the CU is such a seminal piece of the CTI program, then, more rigor and resources need to be put into place to ensure that the CU is a publishable document. As can be seen in the findings section, there were many discrepancies among the CUs. These discrepancies were not just content differences, but lesson planning specific differences. Perhaps Seminar Leaders and Seminar Coordinators need to provide more layers of editing and feedback before the units are submitted. In addition, units that do not meet the standard and/or CTI expectations should not be accepted and/or published.*
- *The format of the CU needs to be standardized. Perhaps templates can be provided either electronically or on paper. It would be beneficial if Fellows electronically submitted their CU and the data input process integrated with a CU searchable database for ease of access and data analysis.*