**National Board Assessment**

**CI 301 (elementary math methods)**

**CI 448 (elementary science methods)**

**National Board Certified Teachers**

**Initial Level National Board Initiative**

In an effort to familiarize initial level teacher candidates with the National Board Certification process and to better prepare them to be ready to follow these same standards and be able to complete the process when they begin teaching, National Board-based assignments were incorporated in the elementary and secondary programs in the fall of 2010. The following six assignments are from required courses and completed by teacher candidates:

CI 301: NB Analysis from Clinical Experience (elementary candidates)

CI 343: Reflective Journal (elementary candidates)\*

CI 345: Reflective Journal (secondary candidates)\*

CI 415: Reflection based on NB (secondary candidates)\*

CI 446: Reflective Journal (elementary candidates)\*

CI 448: NB Analysis from Clinical Experience (elementary candidates)

Initial level candidates are required to attend a National Board Informational Session to learn about the standards and how they will be incorporated in the courses. Since inception, over 1100 teacher candidates have completed assignments based on the standards. The following chart details the number of candidates participating in the training.

\*These assignments were implemented in the courses, but the evaluation was based on completion and no rubric was used to assess. The rubrics have been developed and will be implemented Fall 2018.

**NB Initial Level Participants:**

|  |  |  |
| --- | --- | --- |
| **Semester/Year** | **Candidates Participating** | **Cumulative # of Candidates** |
| **Fall 2010-Fall 2012** | 369 | 369 |
| **Spring 2013** | 134 | 503 |
| **Summer 2013** | 7 | 510 |
| **Fall 2013** | 125 | 635 |
| **Spring 2014** | 26 | 661 |
| **Summer 2014** | 2 | 663 |
| **Fall 2014** | 57 | 721 |
| **Spring 2015** | 85 | 806 |
| **Summer 2015** | 3 | 809 |
| **Fall 2015** | 110 | 919 |
| **Spring 2016** | 43 | 962 |
| **Summer 2016** | 0 | 962 |
| **Fall 2016** | 67 | 1029 |
| **Spring 2017** | 46 | 1075 |
| **Summer 2017** | 0 | 1075 |
| **Fall 2017** | 68 | 1143 |
| **Spring 2018** | 53 | 1196 |

**Marshall University Key Assessment Cover Sheet**

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| --- |
| **What is the Key Assessment Title?***NBPTS Reflection/Analysis for CI 301 (and CI 448) Teaching Lesson* |
| **Who is responsible for the assessment administration?***The CI 301 and CI 448 course instructors are responsible for administering this assessment to the teacher candidates in these courses.* |
| **At what point(s) during the program is it administered?***This assessment is administered when teacher candidates take CI 301 and CI 448. Both of these courses are elementary methods courses in math and science, respectively. These courses are typically taken one or two semesters prior to student teaching.* |
| **What is the purpose of this assessment?***This assessment is used to familiarize the teacher candidates with a similar NBCT process so they know what it is and can anticipate the process when they begin teaching full-time. This assessment is also used to reflect and analyze the math/science lesson that is taught in an actual elementary classroom as part of the requirements for CI 301 and CI 448.* |
| **What scoring/rating must a candidate reach in order to pass this assessment?***This assessment is part of other requirements in the methods courses, so it is best to get a high score.* |
| **How is feedback to the candidate actionable?***The rubric provides the candidates with their score on each element. The candidate can see his/her score in LT. The course instructor and candidate discuss the areas of success and areas where he/she still needs to improve.* |
| **What happens if a candidate does not meet the required criterion?***If the candidate receives a failing or low score on this assessment, it could cause the course grade to be low. If the candidate does not pass this course with a “C” or better, he/she will have to repeat the course.*  |
| **How is the assessment aligned with standards, and what are the categories of alignment?***This assessment is aligned to WVPTS, InTASC, and CAEP standards. This alignment can be seen at the elemental level on the rubric.* |
| **What steps were taken to ensure validity and reliability of the assessment?***This assessment is scheduled to go through the reliability and validity process during the Spring 2020 and Fall 2020 semesters.* |

National Board for Professional Teaching Standards Preparation

**CI 301**

**(CI 448 has the exact assignment, but it has an emphasis on science)**

**Mathematics Lesson**

**Written Commentary**

**Reflection/Analysis Information Packet**

Your assignment will include four areas: description, planning and instruction, analysis, and reflection.   The submitted assignment will be written as one narrative.

**Description:**   This section will describe the classroom setting and situation.   Give details that will allow the reader to visualize and understand what is happening during the teaching in a clear and logical order.

**Planning and Instruction:** In this section you will present your ability to develop a mathematics lesson to engage students in work that helps them acquire mathematical knowledge in thinking, observing, and communicating.

**Analysis:**  This section deals with reasons, motives, and interpretations.  To analyze your teaching you will use evidence of student work or student behaviors.  The analysis is based on concrete observation or student work, not on your feelings about the lesson.

**Reflection:**  This section allows for self-analysis or retrospective ideas on how well the lesson unfolded.   Include your personal insight and feelings to better understand how you will improve on subsequent lessons.   Use this section to include ideas for future teaching situations that will be improved from what you have learned.

  *Adapted from National Board for Professional Teaching Standards (NBPTS).* [*www.nbpts.org*](http://www.nbpts.org)

You will plan, present, analyze and reflect on a whole group math lesson at the end of your clinical experience. This lesson will demonstrate how you help students better understand knowledge about a specific mathematical topic. You will engage students in the discovery, exploration, and implementation of these mathematics concepts, procedures and processes by teaching a well-developed mathematical lesson. This assignment is designed for you to provide evidence of your ability to plan, describe, illustrate, assess, and reflect on your teaching practice.

**You will submit to LiveText: a 6-8 page written commentary, lesson plan, a video recording of your lesson, and 2-3 samples of student work.**

**1. Planning/Description:**

This section will describe the classroom setting, situation, and observations you made of your teaching of mathematics.   Give details that will allow the reader to visualize and understand what is happening during the teaching in a clear and logical order.  Also, observe the grouping of students within the room. When planning your lesson be sure to include a description/instructional context and the rationale while following the COEHS approved lesson plan.

**Instructional Context Guide**

* *What are the numbers, ages, and grade of the students in the class featured in this assignment?*
* *What are the relevant characteristics of this class regarding ethnic, cultural, and linguistic diversity?*
* *What are the range of abilities of the students in this class, i.e., exceptional needs and abilities regarding the cognitive, social/behavioral, attentional, sensory, and/or physical challenges of your students?* Give any other information that might help your instructor and peers “see” this class.
* *What are the relevant features of your teaching context?* This might include a teacher’s aide assisting in the room, students who are pulled out for additional instruction, resources available to you (e.g., computer lab or a specific reading program).
* \*\*\**What is the physical setup of the room? Where are the diverse students located? How might this physical arrangement impact student learning?* Describe in detail the physical arrangement of the classroom being observed. You should describe seating arrangements, instructional delivery areas, and areas where non-structured activities occur (game areas, coat area, etc.). You should describe any learning activity center and the educational skills that are targeted with the center. You will also observe the grouping of students within the room.
* \*\*\**How does the instructional style observed by the classroom teacher, compare with those discussed in this course?* In your opinion, did the classroom teacher address the needs of all students or did he/she meet the needs of a specific group of students? In your opinion, was the method used for instruction appropriate for the number and type of students being instructed? Was there a variation of styles for instruction that occurred in larger or smaller groups? Did the teacher use one-on-one instruction with any students? Describe his/her methods of teaching in this manner.
* \*\*\* *What were the assessment styles that you observed in your placement utilized by the classroom teacher? In your opinion, did the classroom teacher address the needs of all students or did he/she meet the needs of a specific group of students? In your opinion, was the method used for instruction appropriate for the number and type of students being instructed? Was there a variation of styles for instruction that occurred in larger or smaller groups? Did the teacher use one-on-one instruction with any students?* Describe his/her methods of teaching in this manner.

**2. Planning and Instruction:**

In this section you will present your ability to develop a mathematics lesson that will engage students in work that helps them acquire mathematical knowledge through thinking, observing, and communicating.

**Planning and Instruction Guide**

* *Identify the theme addressed during this lesson. Explain why you chose this theme to demonstrate your approach to mathematics.*
* *What were your overarching math goals for this lesson? What is the rationale for your selection of these goals?*
* *Why did you choose these learning experiences as a way to achieve your goals? Pay particular attention to students' knowledge, natural curiosities, and experiences prior to the learning experience and the diversity of the students in your classroom?*
* *What method(s) of assessment did you employ to determine the success and/or progress of your students during this lesson?*  Discuss method(s) of assessment used for the math learning and cite how these methods of asessment provided constructive feedback for you.

**3. Analysis:**

This section deals with reasons, motives, and interpretations.  To analyze your teaching you will use evidence of student work or student behaviors.  Select TWO students (at least ONE of these students should represent a DIVERSE population) to focus your analysis and thinking. YOU SHOULD EXPLICITLY UTILIZE THE STUDENT WORK INCLUDED IN YOUR ANALYSIS along with their observed behavior in the video. The analysis is based on concrete observation or student work, not on your feelings about the lesson.   During the analysis of your lesson, consider student responses or work to determine the effectiveness of the plan and delivery of your instruction. Based on student assessment, address how your plans need to change in order to strengthen your students’ skills (i.e., Do you need to review the lesson the following day or move on to a new skill? What does it show you that they did or did not understand? How effective was it in uncovering student understanding?).

**Analysis of the Lesson/Video Recording Guide**

* \*\*\*What was your *first encounter with your targeted students?* Describe your first opportunity to work with the targeted students. How did you establish rapport? What skills were targeted for improvement? Describe the student’s current level of performance in regards to the skill needing developed. What is your plan for improving his/her skills?
* \*\*\**How did your TWO students work in non-structured and group-centered activities? What were their interactions with their peers?* Describe the pro-social skills that were needed by the student. Did the peer group accept the targeted diverse student? Why or why not? When given the opportunity to self-select (recess, lunch, etc.), did the targeted students have a peer group? Who comprised of the group?
* \*\*\**What were the specific objectives for the learning experience featured on/in the lesson/video recording? To what extent were the learning goals for this lesson achieved?* What instructional methods, assessments, materials, and management techniques did you utilize? How did this student perform in your assessments? How effectively did he/she demonstrate mastery of your learning objectives? How do you know? What did this student’s work tell you?
* *How do the interactions of the lesson (seen in the video recording) illustrate students’ efforts toward the stated goals?* Analyze student-to-student interactions with their group members regarding how they consider the perspectives of their group members and assume responsibility for their own learning.
* *What were specific procedures and teaching strategies you used in the lesson to support student learning?*
* *What samples of student work did you include? Why? What does it show you that they understood? How effective was it in uncovering student understanding?*

**4. Reflection:**

This section allows for self-analysis or retrospective ideas on how well the lesson unfolded.   Include your personal insight and feelings to better understand how you will improve on subsequent lessons.   Use this section to include ideas for future teaching situations that will be improved from what you have learned.  After presenting and analyzing the lesson’s effectiveness based on student work and or responses, reflect on how the lesson unfolded and changes to strengthen or enhance your future lessons.

       **Reflection Guide**

* \*\*\**What was your experience working with the two particularly targeted students?* *What was the most important change that you have made within your own thinking (about diverse students) after this experience? How has your philosophy of education changed after working with these students?* Describe your experience working with these students. Describe the progress (academically or socially) made by the students with your assistance.
* *Evaluate the overall effectiveness of this lesson. How were you able to meet your goals for student learning?*
* *What was the most successful aspect of your lesson and why? How might you conduct this learning experience differently if you were to do it again?*
* *What did you learn from this lesson and how will this knowledge impact your future instruction?*

*Adapted from National Board for Professional Teaching Standards (NBPTS).* [*www.nbpts.org*](http://www.nbpts.org)

 **NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SCORE: \_\_\_\_\_\_\_\_\_\_\_\_ / 90**

**CI 301 DIVERSITY STUDENT CONTEXTUAL REFLECTION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **STANDARD** | **MASTERY (4 pts)** | **PARTIAL MASTERY (3 pts)** | **EMERGING (2 pts)** | **UNSATISFACTORY (1 pt)** |
| **CLASSROOM FACTORS****&****ARRANGEMENT****WVPTS – 2A****InTASC – 1****CAEP - 1.2** | Analyzes the classroom arrangement in detail with special focus on barriers for students of all abilities levels, intellectual and physical. Specifically notes the placement of the targeted diverse student in relationship to his/her peers. | Appropriately recognizes the need for special arrangements for the targeted diverse student. | Description of classroom does not indicate a clear understanding of the importance of a specifically designed classroom and its direct effect upon students of any ability level. | Student does not describe the classroom in detail. The focus is on the physical environment and does not include the implications of the arrangement on class participation. |
| Comments: |
| **INSTRUCTIONAL STRATEGIES****&****IMPLICATIONS****WVPTS – 3D****InTASC – 7****CAEP – 4.1** | In-depth comparison and contrast of instructional styles for the targeted diverse student. Discusses appropriateness of instruction for meeting the needs of all students. | Describes the traditional teaching styles with some specific references to strategies used when teaching specific skills, including a description of variation in teaching styles. | Recognizes only traditional expository model for teaching students, regardless of ability level.  | Lacks description of specific instructional strategies observed during practicum. |
| Comments: |
| **LEARNING GOALS****WVPTS – 1C****InTASC – 7****CAEP – 1.1** | Worthwhile goals for learning through a clearly described them and Big Idea includes a description why the teacher chose this theme. The lesson will significantly enrich students’ understanding of the selected interdisciplinary unit. | Goals for learning through a theme and Big Idea includes a description of the theme. The lesson will enrich students’ understanding of the selected interdisciplinary unit. | Goals are less clear and the Big Idea is not sufficient to guide the lesson. The lesson may enrich student understanding of the interdisciplinary unit. | Goals are not clear and the Big Idea is insufficient to guide the unit. The lesson will not enrich student understanding of the interdisciplinary unit. |
| Comments: |
| **INSIGHTS****INTO****ASSESSMENT METHODS****WVPTS – 3E****InTASC – 6****CAEP – 1.1** | Detailed description of assessments observed/utilized and correctly identifies authentic versus traditional forms. Describes modification and accommodations and explains why they are necessary. | Recognizes and describes traditional and authentic assessment. Describes modifications and accommodations without the why. | Only discusses traditional forms of assessment. Very little description of modifications and accommodations. | Descriptions of assessments are lacking. No discussion of modifications or accommodations. |
| Comments: |

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| --- | --- | --- | --- | --- |
| **NON-STRUCTURED****VS.****STRUCTURED GROUP ACTIVITIES****WVPTS – 3A****InTASC – 4****CAEP – 1.2** | Detailed analysis of the differences in students’ interactions during structured and non-structured activities. Discusses skills needed by diverse students to “fit in” with peers. Notices whether or not student is accepted or rejected by peers and can explain acceptance or rejection. | Describes students in different social situations, including interactions between students. Discusses pro-social skills or problems with socialization. | Discusses socialization but does not compare structured vs. non-structured activities. Little discussion of how targeted diverse student interacts with others. | Very little discussion of socialization. No comparison of socialization across activities. |
| Comments: |
| **RAPPORT****WVPTS – 2B****InTASC – 3****CAEP – 1.4** | Detailed description of how rapport was developed with students and how rapport was maintained throughout the clinical. Methods for developing rapport are appropriate for the student’s age and skill level. | Describes how rapport was developed with students. Most methods are appropriate for the student’s age and skill level. | Some discussion of developing a relationship with students; most interactions are not age-appropriate. | Very little discussion of rapport development. Interactions with student are inappropriate. |
| Comments: |
| **INTERPRETATION OF****STUDENT LEARNING****&****EFFICIENCY****WVPTS – 3E****InTASC – 6****CAEP – 1.1** | Describes the student’s current level of performance and can identify target skills to be improved. Provides an accurate connection between identified skills and future success. A plan of action has been established for skill remediation for the target student. | Discussion of student’s educational performance levels along with identification of target skills to be developed or enhanced. | Present levels of educational performance are identified however specific target skill may not correspond with the student’s specific needs. | Very little discussion of the student’s present levels of education functioning with few skills being identified for targeted assistance. |
| Comments: |
| **IMPLICATIONS****AND****REFLECTIVE PRACTICES****WVPTS – 2A****InTASC – 2****CAEP – 1.1** | Identifies the need for specific changes in instruction, assessment, and management of the targeted diverse student. Provides specific and relevant ideas for redesigning instruction and assessment and explains why these changes would improve diverse student learning. | Identifies some of the need for specific changes in instruction, assessment, and management of the targeted diverse student. Provides few ideas for redesigning instruction and assessment and explains why these changes would improve diverse student learning. | Minimal changes are suggested for instruction, assessment, and management of the targeted diverse student. Minimal ideas are suggested for redesigning instruction and assessment. | Reflects that few changes are needed when working with the targeted diverse student. Ideas for redesigning instruction will not impact diverse student learning. |
| Comments: |

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| --- | --- | --- | --- | --- |
| **GRAMMAR****&****PUNCTUATION** | Entire submission is free of grammatical and spelling errors. | Submission has very few grammatical and spelling errors. | Submission has several errors in spelling and grammar. | Submission has numerous distracting errors in grammar and spelling. |
| Comments: |
| **VIDEO EFFECTIVENESS****WVPTS – 3C****InTASC – 5****CAEP – 1.4** | The teacher uses a variety of questioning techniques. | The teacher uses a few questioning techniques. | The teacher uses just one questioning strategy. | The teacher doesn’t ask questions during the lesson. |
|  | The teacher is professional in appearance. |  |  | The teacher is not professional in appearance. |
|  | The teacher exhibits good voice volume, eye contact, and enthusiasm at all times. | The teacher exhibits good voice volume, eye contact, and enthusiasm most of the time. | The teacher sometimes speaks at an audible level and makes eye contact with students. | The teacher does not speak at a level that students can hear, nor is there any eye contact made. |
|  | The teacher uses correct and acceptable grammar all the time. | The teacher makes few grammatical errors. |  | The teacher does not use correct and acceptable grammar. |
| **WVPTS – 2B****InTASC – 3****CAEP – 1.4** | The teacher demonstrates a supportive, congenial and purposeful learning environment at a high level. | The teacher demonstrates a supportive learning environment. | The teacher demonstrates a somewhat supportive learning environment. | The teacher does not demonstrate a supportive, congenial, or purposeful learning environment. |
| **WVPTS – 1A****InTASC – 4****CAEP – 1.3** | The teacher demonstrates a strong command of math knowledge. | The teacher demonstrates a knowledge of math. | The teacher demonstrates some math knowledge. | The teacher does not demonstrate simple math knowledge. |
| Comments: |

**National Board Assignment Data: (CI 301 and CI 448 are only taken by elementary majors)**

**The n reflects all students in both CI 301 and 448.**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mastery****(4 pts)** | **Partial Mastery(3 pts)** | **Emerging(2 pts)** | **Unsatisfactory(1 pts)** | ***Mean*** | ***Mode*** | ***Stdev*** |
| **Classroom & Community Factors & Arrangement** |
| ***Fall 2015 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.0 | 4 | 0 |
| ***Spring 2016 (n=31)*** | 31 (94%) | 2 (6%) | 0 | 0 | 3.94 | 4 | 0.24 |
| ***Fall 2016 (n=29)*** | 29 (54%) | 24 (44%) | 1 (2%) | 0 | 3.52 | 4 | 0.54 |
| ***Spring 2017 (n=60)*** | 60 (88%) | 8 (12%) | 0 | 0 | 3.88 | 4 | 0.32 |
| ***Fall 2017 (n=58)*** | 39 (7%) | 16 (28%) | 3 (5%) | 0 | 3.62 | 4 | 0.59 |
| ***Spring 2018 (n=59)*** | 39 (66%) | 20 (34%) | 0 | 0 | 3.66 | 4 | 0.48 |
| **Instructional Strategies & Implications** |
| ***Fall 2015 (n=22)*** | 21 (95%) | 1 (5%) | 0 | 0 | 3.95 | 4 | 0.21 |
| ***Spring 2016 (n=33)*** | 30 (91%) | 3 (9%) | 0 | 0 | 3.91 | 4 | 0.29 |
| ***Fall 2016 (n=54)*** | 45 (83%) | 9 (17%) | 0 | 0 | 3.83 | 4 | 0.38 |
| ***Spring 2017 (n=68)*** | 42 (62%) | 24 (35%) | 2 (3%) | 0 | 3.59 | 4 | 0.55 |
| ***Fall 2017 (n=58)*** | 46 (79%) | 10 (17%) | 1 (2%) | 1 (2%) | 3.74 | 4 | 0.58 |
| ***Spring 2018 (n=59)*** | 41 (69%) | 18 (31%) | 0 | 0 | 3.69 | 4 | 0.46 |
| **Learning Goals** |
| ***Fall 2015 (n=22)*** | 21 (95%) | 1 (5%) | 0 | 0 | 3.95 | 4 | 0.21 |
| ***Spring 2016 (n=33)*** | 19 (58%) | 14 (42%) | 0 | 0 | 3.58 | 4 | 0.50 |
| ***Fall 2016 (n=54)*** | 31 (57%) | 21 (39%) | 2 (4%) | 0 | 3.54 | 4 | 0.57 |
| ***Spring 2017 (n=68)*** | 38 (56%) | 28 (41%) | 2 (3%) | 0 | 3.53 | 4 | 0.56 |
| ***Fall 2017 (n=58)*** | 44 (76%) | 11 (19%) | 3 (5%) | 0 | 3.71 | 4 | 0.56 |
| ***Spring 2018 (n=59)*** | 52 (88%) | 4 (7%) | 1 (2%) | 2 (3%) | 3.80 | 4 | 0.64 |
| **Rapport** |
| ***Fall 2015 (n=22)*** | 21 (95%) | 0 | 1 (5%) | 0 | 3.91 | 4 | 0.43 |
| ***Spring 2016 (n=33)*** | 19 (58%) | 14 (42%) | 0 | 0 | 3.58 | 4 | 0.50 |
| ***Fall 2016 (n=54)*** | 34 (63%) | 19 (35%) | 1 (2%) | 0 | 3.61 | 4 | 0.53 |
| ***Spring 2017 (n=68)*** | 32 (47%) | 26 (38%) | 9 (13%) | 1 (1%) | 3.31 | 4 | 0.76 |
| ***Fall 2017 (n=58)*** | 39 (67%) | 14 (24%) | 5 (9%) | 0 | 3.59 | 4 | 0.65 |
| ***Spring 2018 (n=59)*** | 34 (58%) | 22 (37%) | 3 (5%) | 0 | 3.53 | 4 | 0.60 |
| **Non-structured vs. Structured Group Activities** |
| ***Fall 2015 (n=22)*** | 21 (95%) | 1 (5%) | 0 | 0 | 3.95 | 4 | 0.21 |
| ***Spring 2016 (n=33)*** | 29 (88%) | 4 (12%) | 0 | 0 | 3.88 | 4 | 0.33 |
| ***Fall 2016 (n=54)*** | 43 (80%) | 9 (17%) | 2 (4%) | 0 | 3.76 | 4 | 0.51 |
| ***Spring 2017 (n=68)*** | 43(63%) | 22 (32%) | 3 (4%) | 0 | 3.59 | 4 | 0.58 |
| ***Fall 2017 (n=58 )*** | 48 (83%) | 6 (10%) | 3 (5%) | 1 (2%) | 3.74 | 4 | 0.64 |
| ***Spring 2018 (n=59)*** | 48 (81%) | 6 (10%) | 5 (8%) | 0 | 3.73 | 4 | 0.61 |
| **Insights into Assessment Methods** |
| ***Fall 2015 (n=22)*** | 21 (95%) | 1 (5%) | 0 | 0 | 3.95 | 4 | 0.21 |
| ***Spring 2016 (n=33)*** | 29 (88%) | 4 (12%) | 0 | 0 | 3.88 | 4 | 0.33 |
| ***Fall 2016 (n=54)*** | 44 (81%) | 9 (17%) | 1 (2%) | 0 | 3.80 | 4 | 0.45 |
| ***Spring 2017 (n=68)*** | 22 (32%) | 37 (54%) | 9 (13%) | 0 | 3.19 | 4 | 0.65 |
| ***Fall 2017 (n=58)*** | 32 (55%) | 17 (29%) | 7 (12%) | 2 (3%) | 3.36 | 4 | 0.83 |
| ***Spring 2018 (n=59)*** | 35 (59%) | 19 (32%) | 5 (8%) | 0 | 3.51 | 4 | 0.65 |
| **Interpretation of Student Learning & Efficiency** |
| ***Fall 2015 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Spring 2016 (n=33)*** | 28 (85%) | 5 (15%) | 0 | 0 | 3.85 | 4 | 0.36 |
| ***Fall 2016 (n=54)*** | 27 (50%) | 27 (50%) | 0 | 0 | 3.50 | 4,3 | 0.50 |
| ***Spring 2017 (n=68)*** | 42 (62%) | 23 (34%) | 2 (3%) | 1 (1%) | 3.56 | 4 | 0.63 |
| ***Fall 2017 (n=58)*** | 50 (86%) | 7 (12%) | 1 (2%) | 0 | 3.84 | 4 | 0.41 |
| ***Spring 2018 (n=59)*** | 46 (78%) | 12 (20%) | 1 (2%) | 0 | 3.76 | 4 | 0.47 |
| **Implications and Reflective Practices** |
| ***Fall 2015 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Spring 2016 (n=33)*** | 26 (79%) | 7 (21%) | 0 | 0 | 3.79 | 4 | 0.42 |
| ***Fall 2016 (n=54)*** | 33 (61%) | 21 (39%) | 0 | 0 | 3.61 | 4 | 0.49 |
| ***Spring 2017 (n=68)*** | 44 (65%) | 19 (28%) | 5 (7%) | 0 | 3.57 | 4 | 0.63 |
| ***Fall 2017 (n=58)*** | 46 (79%) | 11 (19%) | 0 | 1 (2%) | 3.76 | 4 | 0.54 |
| ***Spring 2018 (n=59)*** | 47 (80%) | 12 (20%) | 0 | 0 | 3.80 | 4 | 0.41 |
| **Grammar & Punctuation** |
| ***Fall 2015 (n=22)*** | 8 (36%) | 14 (64%) | 0 | 0 | 3.36 | 3 | 0.49 |
| ***Spring 2016 (n=33)*** | 12 (36%) | 21 (64%) | 0 | 0 | 3.36 | 3 | 0.49 |
| ***Fall 2016 (n=54)*** | 38 (70%) | 15 (28%) | 1 (2%) | 0 | 3.69 | 4 | 0.51 |
| ***Spring 2017 (n=68)*** | 32 (47%) | 32 (47%) | 4 (6%) | 0 | 3.41 | 4,3 | 0.60 |
| ***Fall 2017 (n=58)*** | 38 (66%) | 20 (34%) | 0 | 0 | 3.78 | 4 | 0.42 |
| ***Spring 2018 (n=59)*** | 41 (69%) | 15 (19%) | 2 (3%) | 0 | 3.67 | 4 | 0.54 |
| **Video of Teaching Effectiveness** (CI 448 only; CI 301 splits this category into 6 sections) |
| ***Fall 2015 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Spring 2016 (n=13)*** | 13 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Fall 2016 (n=33)*** | 17 (52%) | 7 (21%) | 9 (27%) | 0 | 3.24 | 4 | 0.87 |
| ***Spring 2017 (n=30)*** | 16 (53%) | 7 (23%) | 7 (23%) | 0 | 3.30 | 4 | 0.84 |
| ***Fall 2017 (n=36)*** | 15 (42%) | 11 (31%) | 7 (19%) | 3 (8%) | 3.06 | 4 | 0.98 |
| ***Spring 2018 (n=35)*** | 27 (77%) | 5 (14%) | 3 (9%) | 0 | 3.69 | 4 | 0.63 |
| **Video of Teaching Effectiveness – Questioning** (CI 301 only) |
| ***Fall 2015 (n=0)*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 0 | 20 (100%) | 0 | 0 | 3.00 | 3 | 0.00 |
| ***Fall 2016 (n=21)*** | 8 (38%) | 13 (62%) | 0 | 0 | 3.38 | 3 | 0.50 |
| ***Spring 2017 (n=38)*** | 13 (34%) | 25 (66%) | 0 | 0 | 3.34 | 3 | 0.48 |
| ***Fall 2017 (n=22)*** | 19 (86%) | 3 (14%) | 0 | 0 | 3.86 | 4 | 0.35 |
| ***Spring 2018 (n=24)*** | 22 (92%) | 1 (4%) | 1 (4%) | 0 | 3.88 | 4 | 0.45 |
| **Video of Teaching Effectiveness – Appearance** (CI 301 only) |
| ***Fall 2015 (n=0)*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 19 (95%) | 1 (5%) | 0 | 0 | 3.95 | 4 | 0.22 |
| ***Fall 2016 (n=21)*** | 18 (86%) | 3 (14%) | 0 | 0 | 3.86 | 4 | 0.36 |
| ***Spring 2017 (n=38)*** | 36 (95%) | 1 (3%) | 0 | 1 (3%) | 3.89 | 4 | 0.51 |
| ***Fall 2017 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0 |
| ***Spring 2018 (n=24)*** | 24 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0 |
| **Video of Teaching Effectiveness – Mannerisms** (CI 301 only) |
| ***Fall 2015 (n=0)*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 17 (85%) | 3 (15%) | 0 | 0 | 3.85 | 4 | 0.50 |
| ***Fall 2016 (n=21)*** | 21 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Spring 2017 (n=38)*** | 23 (61%) | 15 (39%) | 0 | 0 | 3.61 | 4 | 0.37 |
| ***Fall 2017 (n=22)*** | 18 (82%) | 4 (18%) | 0 | 0 | 3.82 | 4 | 0.39 |
| ***Spring 2018 (n=24)*** | 17 (71%) | 7 (29%) | 0 | 0 | 3.71 | 4 | 0.46 |
| **Video of Teaching Effectiveness – Grammar** (CI 301 only) |
| ***Fall 2015 (n=0)*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 15 (75%) | 5 (25%) | 0 | 0 | 3.75 | 4 | 0.44 |
| ***Fall 2016 (n=21)*** | 18 (86%) | 3 (14%) | 0 | 0 | 3.86 | 4 | 0.36 |
| ***Spring 2017 (n=38)*** | 36 (95%) | 2 (5%) | 0 | 0 | 3.95 | 4 | 0.16 |
| ***Fall 2017 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0 |
| ***Spring 2018 (n=24)*** | 23 (96%) | 1 (4%) | 0 | 0 | 3.96 | 4 | 0.20 |
| **Video of Teaching Effectiveness – Learning Environment** (CI 301 only) |
| ***Fall 2015 (n=0 )*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 15 (75%) | 5 (25%) | 0 | 0 | 3.75 | 4 | 0.44 |
| ***Fall 2016 (n=21)*** | 4 (19%) | 15 (71%) | 2 (10%) | 0 | 3.10 | 3 | 0.54 |
| ***Spring 2017 (n=38)*** | 36 (95%) | 1 (3%) | 1 (3%) | 0 | 3.92 | 4 | 0.36 |
| ***Fall 2017 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0 |
| ***Spring 2018 (n=24)*** | 22 (92%) | 1 (4%) | 1 (4%) | 0 | 3.88 | 4 | 0.45 |
| **Video of Teaching Effectiveness – Content Knowledge** (CI 301 only) |
| ***Fall 2015 (n=0)*** | -- | -- | -- | -- | -- | -- | -- |
| ***Spring 2016 (n=20)*** | 11 (55%) | 9 (45%) | 0 | 0 | 3.55 | 4 | 0.51 |
| ***Fall 2016 (n=21)*** | 21 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0.00 |
| ***Spring 2017 (n=38)*** | 34 (89%) | 2 (5%) | 2 (5%) | 0 | 3.84 | 4 | 0.49 |
| ***Fall 2017 (n=22)*** | 22 (100%) | 0 | 0 | 0 | 4.00 | 4 | 0 |
| ***Spring 2018 (n=24)*** | 23 (96%) | 1 (4%) | 0 | 0 | 3.96 | 4 | 0.20 |

\*\* In Fall 2015, CI 301 did not have this section as part of the NB assignment. It was added in Spring 2016.

**Data Analysis**

Elementary teacher candidates taking the mathematics and science methods courses perform at the “mastery” and “partial mastery” levels on their National Board Assessment. The candidates receiving a score of “mastery” has dropped and then improved over the past six semester, as can be seen in the data. Overall, it appears as though the candidates’ understanding of the assessment elements are improving based on the higher marks on the rubric.