

Impact on P-12 Student Learning

Marian University Case Studies

To provide evidence of the impact EPP completers have on P-12 student learning, the unit conducted two case studies. Upon receiving IRB approval, the EPP worked with school partners and faculty to identify two completers to serve as participants and selected one from the traditional (TRAD) program and one from the alternate (ALT) program. Each served in different schools but were asked to provide the following information: Unit Plans and Assignments, Unit Assessment Data, Standardized Data, and Completer Observations. The EPP also conducted interviews with the completers and their principals and had each complete the appropriate state-developed satisfaction survey. The case study was modeled on the option for private universities from the CAEP Standard 4 Evidence: A Resource for EPPs document.

The case study used semi-structured interviews to allow interviewers to follow relevant topics that arose during the interview for further clarification. The questions were the same for both the teacher and administrator and were modeled off questions used in the James Madison University EPP Completer Case Study.

Case Study Completer 1

Completer 1 was a female in her third year of teaching at a suburban, elementary school and was a graduate of the EPP's TRAD program. According to the state's Department of Education website, in 2018-19 the demographic makeup of her school was 70.5% (N = 432) white, 12.7% (N = 78) black, 7.7% (N = 47) multiracial, 6.2% (N = 38) Hispanic, and 2.9% (N = 18) Asian. Across the school, 26.1% qualified for free or reduced lunch. According to the Annual Performance Report, the district was above average for minimum and maximum teacher salary range, had a lower than average percentage of special education students (12.7%), and an above average percentage of students in gifted and talented programs (14.0%) compared to the state. The district had an "A" rating and the school performed slightly below the average pass rate on the state standardized test (80.7%) compared to the district (83.6%). But both outperformed the state average (50.8%).

Completer 1 provided a lesson plan for number modeling and finding totals; unit review; lesson study guide; lesson quick check and activities; pre- and post-unit assessment; DIBELS data for all first grade classes at the school; and pre- and post-test unit assessment data for all first grade classes at the school.

The completer provided the individual lesson plans within the unit, with one standard identified for each lesson. The lesson plans were minimal, each only one page, with brief descriptions of what the completer and students would do in each lesson. In addition to the lesson plans, the completer provided multiple examples of instructional materials and resources that provided students opportunities to practice these skills. While this lesson plans could have been stronger, her observations and student learning data suggest that she is an effective teacher.

The school uses a specific and thorough process for observing their teachers, which was evident in the feedback and provided as part of the case study documents. The first section of the observation form is a checkbox of expectations related to instruction and classroom environment. While completer 1 consistently checked the vast majority (or in several observations, all) of the boxes, the one area that was unchecked on two observations related to differentiated instruction. However, written feedback on the observations were very positive and indicated consistent and strong instructional practices, which aligns with the quality of the unit materials that completer 1 provided.

The real strength of the documents provided by completer 1 was the unit data. There is pre and post-test data for all students in the first grade at her school organized by teacher to make comparison easy. The completer sent the pre- and post-test that assesses each of the seven skills identified in the data tracker. In the pre-test data,

completer 1's students performed at a very high level (19/22 showing mastery) for all skills except addition and subtraction to determine the skip counting rule. On that skill, only eight of 22 students showed mastery in the pre-test, but all showed mastery on the post-test. In fact, all students demonstrated the level of mastery needed for all skills on the post-test.

Since the school provided the pre- and post-unit data for the entire grade level it was possible to compare completer 1's student performance to the other teachers. The percent correct for each of the seven questions were compared between all grade-level teachers using ANOVA. The findings indicated that there was no statistically significant difference in the percent of students who got correct answers on the pre-test questions between the various classes in the grade level, $F(4, 30) = 2.05, p = .11$. The findings indicate that any differences in the number of students who got the different questions correct was a product of chance. This is important as it suggests that, from a statistically significant perspective, the classes were performing similarly on the pre-test, which can inform findings on the post-test.

The post-test was also analyzed using ANOVA. The completer's students all showed growth as all 22 students demonstrated mastery on each of the seven skills. Additionally, the ANOVA analysis indicated that there was a statistically significant difference between the first grade classes in the percent of students with correct answers on the post-test, $F(4, 55) = 8.14, p < .00, \eta^2 = .379$. Post hoc analysis using Dunnett C found that completer 1's class outperformed two other classes in post-test performance, and these were the only statistically significant differences. This suggests that some salient factor, not mere chance, is responsible for the differences in the post-test scores. The reported effect size of $\eta^2 = .379$ suggests that 37.9% of the variance in the scores can be attributed to the predictor variable, which in this case is the teacher. While the sample size was small, completer 1 was found to have statistically significantly higher performance on the post-test than two other teachers in her grade level, and higher performance in general (though not statistically significant) than all the teachers in her grade level.

In addition to the pre and post-test data for all the classes of the same grade level within the school, completer 1's administrator provided de-identified DIBELS data for all first grade students from the 2018-19 school year, organized by each classroom teacher. Statistical analysis was conducted for completer 1's DIBELS, pre-, and post-test scores that were provided in comparison to her fellow grade-level teachers. The DIBELS composite score was compared for growth from beginning of the year (BOY) to end of the year (EOY) using ANOVA. There was no statistically significant differences between the completer and her grade-level colleagues, $F(4, 83) = .45, p = .77$. The findings indicate that any differences in the growth rate of the students on DIBELS composite scores in each of the classes was most likely a product of chance.

The last elements of the case study were interviews and a satisfaction survey. The interviews were semi-structured and are provided as evidence. The satisfaction survey was the same survey used by the state DOE.

Completer 1 was able to clearly explain what evidence she used to determine whether and how her students were learning. She noted using math quick checks, spirals, and checking retention of sight words as three ways she gauged comprehension and standardized tests such as DIBELS for checking overall learning. For students requiring differentiation or special assistance she indicated that she utilized a more hands-on approach for academic support but identified efforts to also support them for more successful classroom behavior, citing flexible seating as one such tool. Both the principal and the completer pointed

out that the curriculum for the grade is preset and that her charge is to find the best way to engage students in the learning. In completing the satisfaction surveys, both the principal and completer responded with "Agree" or "Strongly Agree" for all statements and "Satisfied" or "Very Satisfied" for their level of overall satisfaction.

Case Study Completer 2

Completer 2 was a male in his second year of teaching at an inner city, elementary, charter school and was a graduate of the EPP's ALT program. He was in his second year as a completer but spent two years prior at the same school while completing his Master of Arts in Teaching. According to the state's Department of Education, his school is 73.9% (N = 363) Hispanic, 22.2% (N = 109) black, 2.6% (N = 13) white, and 1.2% (N = 6) multiracial. Across the school, 91.2% (N = 448) qualify for free lunch and 5.5% (N = 27) qualify for reduced lunch, meaning that 96.7% of students are living at 185% of poverty level or worse. According to the district's Annual Performance Report, the district has a higher than average percentage of special education students (16.4%, N = 70) and has a below average percentage of students in gifted and talented programs (0%, N = 0) when compared to the state. The school is below the average pass rate on the state standardized test (25.8%) compared to the state average (50.8%), but the district has an "A" rating on the federal accountability report card based on academic progress.

Completer 2 provided a science unit on energy and force; two weekly assessments used to assess student learning during the unit; unit pre and post assessment; pre and post assessment data for his three 4th grade science classes; two cycles of NWEA data from the 2018-19 school year for his students; additional standardized test data for the "focus group" students from each class; and administer-conducted completer observations.

Overall, the materials from completer 2 were comprehensive. The unit plan clearly mapped out the learning objectives for the unit, with objectives at different levels of thinking (engage, explore, explain, elaborate, and evaluate). There were objectives identified for each lesson with the formative assessment task, criteria for success, and even anticipated scenarios of students struggling and what he will do to address them if they arise. The assessment is part of the unit plan, with the specific standards that are assessed, key vocabulary, and materials needed. It is clear what the objective for each lesson is, how it will be assessed, and what the criteria for success in that lesson is.

Observations of completer 2 were conducted by the school, but the system did not appear as structured as that of completer 1. Observations indicated two areas for improvement. First was student engagement. On September 26 the observation mentioned that a student was in and out of the room several times and the observer asked how completer 2 might be more deliberate in engaging him. On November 14 the school observer indicated that she wanted to discuss with completer 2 how to, "boost student engagement and investment." The second area of improvement was focused on student accountability. On both November 1 and 14, the school observer noted that students weren't following directions or on task and asked how completer 2 could hold them accountable.

Completer 2 provided unit assessment data in the form of a weekly tracker and post-test unit data. His two weekly assessments were used to determine students' level of mastery of standards, and four learning objectives from the week. These standards and objectives were identified at the top of the weekly assessments, showing a high level of transparency in the completer's assessment writing. The same pre and post-test was used, and the standards were identified within the body of the assessment, after questions addressing those specific standards. Within the test, the completer identified answers at the different levels of mastery for short response questions, with a rubric for these short response questions.

There was pre and post-test data for one of the completer's three classes to which he taught the unit. Sixteen out of 23 students initially mastered the Habits of a Scientist standard, then all 23 students mastered this in the post-test. The standard covering how potential energy is converted to kinetic energy only included pretest data for four students in the "focus group, which three mastered. These same results are indicated in the post-test. Twenty of the 23 students mastered this standard in the post-test. Similarly, there is only pretest data for the end of unit assessment for the "focus group," with 1/5 showing mastery. This improved to 3/4 in the post-test (one student absent), and 22 students showed mastery in the class. Preferably, there would have been pre and post-test data for all students in all three classes. During the interview, the candidate disclosed administration identified the students for the "focus group," and that this is a common practice for data analysis within the school. These students are

roughly one-half grade level below the expectation, so teachers focus on this group specifically because they are so close to grade level work.

The unit assessment data also included post-test data only for each class section on mastery of the unit standards. While this data offers limited value without the pre-test data for comparison, the key takeaway is that across all standards and all class sections, all but 2 standards were mastered by all the students. And of the two standards that were not unanimously mastered, only one student did not master them.

Completer 2 provided standardized test data for the five “focus group” students in each class and an NWEA comparison of the completer with the entire school. This included scale scores for ELA and math, Lexile, IREAD-3 initial and retake scores. The IREAD-3 retake score is of interest, because there is improvement in all students who had to retake this test. In such an instance, the completer would be responsible for some portion of that growth due to literacy instruction that is part of his science classes.

In analyzing the NWEA data, in 2016-17, the percentage of students meeting reading growth goals in completer 2’s class was above the school, and the same was true for math growth goals in 2018-19. However, the percentage meeting reading and math growth goals in 2017-18 were below the school average. A similar pattern existed with projected proficiency; however, those numbers are lower than school averages across the entire 3 years of data outside of 2017-18 math.

During the semi-structured interviews, when asked what specific evidence he uses to determine impact on student learning, completer 2 stated that exit tickets and weekly quizzes were his primary tools. He also referred to using Second Step to both teach and assess social emotional learning for his students. His principal discussed how he remains calm when working with students with special needs and he referenced literacy intervention curriculum as one of his methods. Both the completer and his principal selected “Agree” or “Strongly Agree” for all the statements on the satisfaction survey, and “Very Satisfied” and “Satisfied” respectively for their level of overall satisfaction with the completer’s preparation.

The findings for both case studies were used by the EPP to consider ways for better preparing candidates for a smooth and easy transition into their role as a classroom teacher. One item that became evident was the difference in the school setting itself, which is something over which the EPP does not have control. The fact that completer 1 was essentially given the curriculum and then asked to figure out ways to make it engaging is significantly different than the experience of completer 2 who was given full responsibility for finding the curriculum and developing the learning activities to convey the concepts. Both participants seemed to have responded well and student learning appeared to be positively impacted, but it speaks to the important shift recently made in which the EPP provides clinical experiences in a wide range of school settings. It also reinforces the value of using the Artificial Intelligence software Mursion to provide candidates with simulated classroom experiences that can mimic situations they will face in schools but that it cannot be guaranteed they would encounter in their clinical experience.