Introduction:

The School of Education at High Point University (HPU) has been preparing teachers for nearly 90 years. The HPU educator preparation program uses multiple assessments arranged in a sequence of “gateways” to ensure the quality of program completers and subsequent impact on P-12 students. Candidate assessments include both formal and informal instruments with a combination of measures that are Proprietary-based or EPP-created. The EPP collects candidate data on these assessments annually to determine candidate eligibility for progression in the program as well as to inform faculty and other stakeholders about the quality of the EPP programs and need for improvements. Annual assessment data is presented to the School of Education faculty at the conclusion of each academic year for discussion and subsequent recommendations. Each August the EPP presents its findings to the Teacher Education Council for additional input from public school representatives, candidate undergraduate and graduate student representatives, and liaison faculty in the College of Arts and Sciences. The School of Education submits annual Title II reports, PEDS reports and IHE Performance Reports for the state of North Carolina which includes critical measures of quality assurance including trends in enrollment, retention and program completion statistics, licensure eligibility of candidates, employment rate and measures of employee satisfaction for High Point University graduates.

The EPP uses multiple measures of candidate performance as they progress through the program of study. Earlier assessments are used to select and identify candidates in need of intervention or additional supports (or occasionally to counsel candidates out of the EPP program). Repeated assessments are used to monitor growth such as in performance in clinical field settings and professional disposition. In an effort to monitor the predictive validity of measures used to assess candidate preparation and subsequent impact on actual performance as noted by the university supervisor and cooperating teacher during the midterm evaluation of Internship II (student teaching), a multivariate regression analyses was performed independently by candidates enrolled in the Educational Leadership Ed.D. program in 2015.

Review of Literature

SAT/ACT Scores

Henry et.al. (2013), studied the impact of a number of pre-service indicators and the impact on student achievement as measured by value-added scores. The authors found that SAT and ACT scores of first year teachers were not related to the value-added measures of their students’ learning after controlling for other variables. They did find that total GPA was a better predictor of math value-added scores than any other variable in the study. (Henry et.al. p.448)
Blue and O’Grady (2002) conducted a study with 328 students in the elementary and early childhood education program at Elizabethtown College. All students completed the teacher program and graduated over an eight year period between 1994 and 2001. Included among the twelve variables researchers analyzed were SAT scores (verbal, math, and total), GPA after one year, and the students’ final GPA. Students were divided into low, middle and high subgroups based on final GPA, total SAT, and Praxis general knowledge scores. Blue and O’Grady examined the existence of a linear relationship between pairs of variables. Results revealed no significant correlation between final GPA and SAT verbal, SAT math, and total SAT scores for the low group. However, there was a low to moderate correlation between the low group’s SAT verbal and SAT total scores to their Praxis results. There was no relationship between the low group’s SAT math and Praxis. However, for the middle group there was a significant correlation between final GPA and Praxis. In general, Blue and O’Grady found, that there was not a significant relationship on any of the variable pairs for the high or low groups, but for the middle group there was a positive relationship between GPA and Praxis scores. (Blue and O’Grady, p.8). It is important to note, a limitation to this study is the fact that all students graduated and completed the program. There was no data collected from students who failed to meet the program completion requirements.

**Praxis I & II Scores**

The Educational Testing Service (ETS) publishes two tests that are designed to measure the skills and content knowledge of candidates entering teacher preparation programs (Educational Testing Services, n.d., p. 1). The Praxis 1 and 2 tests have been used since the early 1990’s and replaced an older test, the National Teacher Exam. The Praxis Core Academic Skills for Educators (Praxis 1) exam measures general academic skills in reading, writing and mathematics. The Praxis II: Subject Assessments measure subject-specific content knowledge, as well as general and subject-specific teaching skills for beginning teaching (Educational Testing Services, n.d., p. 1). Even though more than forty states specify a minimum score on at least one standardized test to award a teacher license, D’Agostino and Powers (2009) state that the ability of these tests to predict teacher preparedness remains in question. Their meta-analysis of 123 studies concluded that pre-service teachers’ performance in college, especially during student teaching, predicted performance better than teacher licensing tests. D’Agostino and Powers commented on the irony that the standardized licensing tests are less related to teaching performance than students’ success in pre-service programs that the standardized tests were designed to hold accountable! (D’Agostino and Powers, p. 164-165)

**Pre-Admission GPA and GPA at Fall Semester Senior Year**

Research by Graham and Garton (2003) has shown inconsistent findings in regards to grade point average (GPA) and its correlation to student teaching performance (Graham & Garton). “The lack of consistent findings leaves questions as to its use as a selection criterion in teacher preparation” (Graham & Garton, p 54). D’Agostino and Powers (2009) examined the predictive power of college GPAs and teacher performance. As stated earlier D’Agostino and Powers observed that non-standardized measures of college work were more predictive of teacher success than standardized teacher licensing tests. They discovered through their meta-analysis
that education GPAs had an effect size of .22, undergraduate GPAs had an effect size of .24, and student teaching GPAs, which were most predictive, had an effect size of .29. The researchers noted that GPAs could have been inflated because most of the teacher performance measures were conducted by the same people that would influence GPAs. (D’Agostino and Powers, 2009, p. 161)

**Disposition Scores**

The most commonly cited definition for dispositions in teaching comes from the National Council for Accreditation of Teacher Education (NCATE, 2008), which defines dispositions as the “professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as educators interact with students, families, colleagues, and communities” (pp. 89-90). The High Point University disposition instrument for the School of Education contains twenty indicators. In looking at each of the variables, the literature shows that variables related to the actual act of teaching and functions of a teacher are correlated to success. For instance, Morrison (2006) describes effective teachers as those who “accept responsibility for teaching, allocate most of their time to instruction, organize their classroom for effective instruction, [...] maintain a pleasant learning environment that is student centered, and provide opportunities for practice and feedback on performance” (p. 13). Talbert-Johnson (2006) explains that “the personal belief systems of teachers significantly influence the behaviors displayed in the classroom and the instructional decisions teachers make” (p. 152). In analyzing literature relevant to dispositions 1-4, there is no quantifiable data that clearly correlates to success in teaching. In analyzing dispositions 5-8, there is literature to support the fact that parent communication is a predictor of success in the classroom. Working hand-in-hand with parents is an essential factor in the success of a teacher, and even more importantly in the success of students (Xu & Gulosino, 2006). There continues to be a serious challenge for teacher preparation programs to incorporate family engagement into the curriculum (Shartrand, Weiss, Kreider & Lopez, 1997). It is important that teacher education programs incorporate the critical dispositions that pre-service teachers should nurture to empower them to work with families. (Pedro, Miller & Bray).

When presented with challenging assignments and activities, it is essential that pre-service teachers demonstrate perseverance, a sense of enthusiasm, and a passion to teach. These dispositions are difficult to measure, as is the ability to motivate others. Wayda & Lund have developed rubrics to assess a student’s suitability for the teaching profession (2005), for the behavioral aspects of teaching produce a quality teacher, not just a qualified teacher (Xu & Gulosino, 2006). If dispositions are considered a true predictor of success in the classroom, the dispositions must be modeled throughout the duration of the teacher education program (Helm, 2006). Dispositions 9 through 12 in the HPU instrument are based on the belief that teachers who seek to make a significant impact in student learning are leaders who understand ethical and professional behavior, are respectful and supportive of others, and demonstrate an appreciation for individual differences. The aforementioned dispositions are also difficult to measure accurately in prospective teachers, but research has proven their importance. Providing opportunities to exercise leadership roles encourages teachers to actively engage in, contribute to, take responsibility for and become accountable for what is happening in their schools (York-
Barr & Duke, 2004). Using that understanding, other researchers have subsequently found data that supports a correlation between schools with a culture of responsibility and student achievement. In 2008, Walters, Marzano and McNulty demonstrated that schools that develop cultures of collaboration and professional inquiry have success in improving student learning (Waters, Marzano & McNulty, 2008). Teachers do not operate in a vacuum, and as such, interacting with others and demonstrating an appreciation for individual differences can prove to be critical success factors. Fullen found that teachers need to model effective skills in listening, presenting ideas, leading discussions, clarifying, mediating, and identify the needs of self and others in order to advance shared goals and professional learning (Fullen, 2001). Student teachers should be accountable for completing work, demonstrating curiously, interacting with diverse cultures, and using critical thinking. All of the HPU dispositions are observed within mentoring or student teaching programs as suggested by researchers (Inlow, 2014; Torrez, 2012; Hirschkorn, 2009; Edwards, 1998). In a study by Torrez (2012), an investigation of characteristics and attributes of the student teaching experience was employed to better understand what makes a quality student teaching experience. Cooperating teachers provide opportunities for professional growth, mentoring, extra help, and companionship to student teachers (Torrez, 2012). Educational institutions should address the importance of matching student teachers to appropriate cooperating teachers in order to encourage growth (Hirschkorn, 2009). Student teachers are chosen based on standards created by the institution in which they are enrolled. Evaluations should be primarily focused on who is completing the evaluation, who is being evaluated, and how the evaluation can be accomplished most effectively (Inlow, 2014). In a mixed-method qualitative study exploring student teacher relationships with cooperating teachers Hirschkorn (2009) found that time, mentor relationships, and student-teacher relationships play an important role in the willingness, longevity, and efficacy of beginning teachers. There is a direct correlation in placing student teachers in placements that promote positive development. In looking at dispositions 17-20, commonalities can be found in how the dispositions relate to self-assessment and reflection upon the choices a teacher makes regarding approaches to instruction. Misulis notes that “regardless of the teaching model and methods used, effective instruction begins with careful, thorough, and organized planning on the part of the teacher” (p. 46). Haynie’s (2006) research noted the most effective teachers also were not restricted by pacing guides, and reached beyond prepared resources to plan their own activities. Implementing a variety of classroom techniques and strategies also enhances student motivation and decreases discipline problems. Self-assessment and evaluation can be used by teachers to judge the adequacy of their beliefs, knowledge, skills, and effectiveness. It can lead to a self-initiated formative evaluation where teachers develop awareness, reflect on, and improve their performance. (Kremer-Hayon, 1993; Airason & Gullickson, 2006) These dispositions point to values and beliefs that can contribute to success as a teacher.

Electronic Evidences Measuring the NC Professional Teaching Standards.

HPU professors complete several electronic evidence rubrics that assess student teacher’s knowledge of the North Carolina Professional Teaching standards. Lee Shulman (1986) and his colleagues proposed a special domain of teacher knowledge that they termed pedagogical content knowledge. Since Shulman’s research what has provoked broad interest is the suggestion that there is content knowledge unique to teaching—a kind of subject-matter-specific professional knowledge. Deborah Ball (2008) and her colleagues have completed extensive research with
math teachers, studying how they carry out the work of teaching mathematics. While Ball focuses on the important role that content knowledge plays in teaching mathematics, she and her colleagues noted that the mathematical knowledge for teaching begins with teaching. Her group argues that content knowledge alone is not enough. According to Ball and her colleagues teachers need to better understand how mathematical knowledge is used in teaching effectively. They found that what seems to be most important is knowing and being able to use the mathematics required inside the work of teaching.

Good teaching demonstrates a deep understanding of the subject matter and results in that students that are excited about learning. It helps them to truly understand the content. It is the role of good teachers to get students excited about learning and to help them truly understand the subject that they are teaching (Corbett, 2002). With new essential standards and the common core, it is paramount that teachers know what students are expected to master by the end of a school year and have a thorough understanding of the subject matter. Good teachers are students themselves as they never stop learning the content they teach. It is this love of the subject that good teachers relay to students and it builds excitement as students become problem solvers and gain mastery of the subject. The Best Teachers I Have Known by Susan Allred also lists mastery of content as a quality of good teaching. She also states that good teachers are insatiable learners with positive outlooks and they create communities for success (Allred, 2010).

Methodology

In order to determine if the mid-year HPU student teaching rubric score could be predicted from the available HPU assessments for student teachers a multiple regression analysis was completed using six of the ten assessments. A discussion follows that examines each of the six assessments that were included in the analysis and the four assessments that were not included:

Assessments:
(1) GPA at time of admission to the teacher education program (range, 2.5849 - 4.0 on a 4 point scale, mean – 3.3465, Standard Deviation - .3445) – each of the 63 student teachers had GPAs at the time of admission and inclusion of college GPA scores was supported by the literature review.
(2) GPA at the end of the fall of the student teacher’s senior year (range, 2.8624 – 4.0 on a four point scale, mean – 3.5292, Standard Deviation - .2651) – each of the 63 student teachers had fall senior year GPAs and the inclusion of college GPA scores was supported by the literature review.
(3) Junior Year Disposition (range, 42 – 60 on a 60 point scale, mean – 56.44, Standard Deviation – 3.5277) – Inclusion of a measure of teacher disposition was supported by the literature review. Scores were available for 58 of the 63 students; the mean score was substituted for the missing data.
(4) Internship evaluation (range, 31 – 65 on a 69 point scale, mean – 54.0, Standard Deviation – 5.9379) – Inclusion of a measure for an internship experience was supported by the literature review. Scores were available for 35 or the 63 students; the mean score was substituted for the missing data.
(5) **Electronic Evidence #3 – Literacy Infused Curriculum Project** (range, 29 – 45 on a 45 point scale, mean – 39.10, Standard Deviation – 4.0069): Electronic Evidence #3 consists a rubric for the five North Carolina Teaching Standards: Teacher leadership; Teachers establish a respectful environment for a diverse population of students; Teachers know the content they teach; Teachers facilitate learning for their students; and Teachers reflect on their practice. The literature review supports the inclusion of measures of pedagogy and content knowledge. Scores were available for 61 out of 63 students; the mean score was substituted for the missing data.  

(6) **Electronic Evidence #6 – Leadership and Collaboration Project** (range, 14 – 21 on a 21 point scale, mean – 19.57, Standard Deviation – 1.9): Electronic Evidence #6 consists of a rubric for three of the five North Carolina Teaching Standards: Teacher Leadership, Teacher outreach to students, parents, and community members of diverse backgrounds; and Teachers professional growth and reflection. The literature review supports the inclusion of measures of pedagogy and the ability to work together (dispositions).

**Results**

The SPSS analysis revealed that all six variables were able to account for 22.8 percent of the variation in the mid-term student teaching rubric score. The adjusted $R^2$ squared using all six independent variables was 14.5 percent. This number suggests that several of the independent variables might not be contributing to predictability and in fact diluting it. An examination of the correlation between the six independent variables and the dependent variable reveals the following:

<table>
<thead>
<tr>
<th>Internship II Midterm Score</th>
<th>GPA at Admission</th>
<th>GPA Fall Senior Year</th>
<th>Junior Year Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship II Evaluation</td>
<td>.271</td>
<td>.357</td>
<td>.196</td>
</tr>
<tr>
<td>Internship II Midterm Score</td>
<td>Internship Evaluation</td>
<td>Electronic Evidence #3</td>
<td>Electronic Evidence #6</td>
</tr>
<tr>
<td></td>
<td>.129</td>
<td>.309</td>
<td>.202</td>
</tr>
</tbody>
</table>

The SPSS analysis was repeated using only the two most highly correlated variables with the dependent variable; namely, GPA fall of senior year and Electronic Evidence #3. The two independent variable SPSS model indicated that 18.3 percent of the variation in the student teacher mid-term student teaching rubric score was accounted for, but the adjusted $R^2$ squared was 1.1 percent higher than the entire model at 15.6 percent.

**Next Steps and Recommendations for Summer 2015**

In this study it is noteworthy that the GPA in the fall of the senior year is the most highly correlated of the six independent variables with the mid-term student-teacher rubric. This outcome was observed in several of the studies cited. Many professors teach courses during the
student teacher’s college experience and contribute to the GPA calculated after the fall of the senior year. The performance of student teachers in their courses should be a predictor of student teaching success, and the class found that affirming for the college experience for graduates of the HPU teacher education program.

A follow-up study is scheduled for summer 2015 to evaluate the predictive validity of the above variables in terms of their impact on P-12 Student Learning as measured by the TRIPOD Survey results (at the time of this analyses these results had not yet been provided to the EPP). The dependent variable in this study will be created by student survey responses and the final score earned by candidates on the Exit Evaluation of Student Teaching. Additionally, the Pearson Multi-subjects Math scores for Elementary and Special Education majors will be evaluated to determine the predictive validity of the Math Post Skills Assessments from EDU 3231 from 2013-2014 (this data would be the current program completers of 2015). Finally, the EPP will evaluate the predictive validity of Content GPA for all candidates disaggregated by program area, the rubric score from the Depth and Application Project and final content scores on both midterm and exit evaluations (addendum) of Internship II.

Works Cited


https://www.ets.org/praxis/about?WT.ac=praxishome_about_121126


Inlow, G. M. (December 22, 2014). Evaluating Student-Teacher Experiences. The Journal of Educational Research, 45, 9, 705-713


http://dx.doi.org/10.1080/00220670209596594


Stronge Teacher Effectiveness Performance Evaluation Instrument (2012), Incorrect citation

NEED A CITATION FOR SHULMAN (2007)


