

# **Preparing Teachers for Diverse Schools - An Online Tool for Calculating School Diversity for Field Placements**

Aslihan Unal, Georgia Southern University, [aunal@georgiasouthern.edu](mailto:aunal@georgiasouthern.edu)

Zafer Unal, University of South Florida

While teacher education programs are required to place preservice teachers in diverse schools/classrooms, the conceptualization and measurement of diversity remains a challenge. One of the primary methods for developing teachers so that they can capably work with diverse student populations is to provide field experiences that place teacher candidates in schools with diverse populations. The purpose of this study was to (1) describe how a teacher education institution developed a web application to record and calculate diversity of the field practicum placements; and (2) describe how the institution used the placement diversity data to research program improvement and decision making. The results indicated that the diversity level of the practicum placement was positively correlated with some outcomes, such as graduate and employer satisfaction ratings, and negatively correlated with others, like internship outcomes. The data from this study was used to guide program improvement decisions.

Keywords: *School diversity, field placements, preservice teachers, teacher education*

Teacher education programs in colleges and universities have been responding to the challenges of preparing teachers for the increasing diversity of students in schools by altering courses, curriculum, fieldwork experiences, and other policies to include a diversity and multicultural education focus (Cochran-Smith & Zeichner, 2005; Finley, 2000). One of the primary methods for developing teachers capable of working with diverse student populations is placing preservice teachers in schools with diverse populations for field experiences.

Field experiences commonly have been considered the most important and powerful component of teacher education programs (Anderson & Stillman, 2013; Hollins & Torres-Guzman, 2005; McIntyre, Byrd, & Foxx, 1996; Kyndt et al., 2014; Steadman & Brown, 2011). These firsthand experiences allow preservice teachers to apply and reflect on their content, professional and pedagogical knowledge, skills, and professional dispositions in real school settings with the guidance of a university supervisor and cooperating (mentor) teachers (Cochran-Smith & Zeichner, 2005; Cuenca, et al., 2011; Retallick & Miller, 2007; Sorensen, 2014). While the specifics of field experiences vary depending on the individual program requirements, a typical field experience consists of three components in the following order (1) observing the classroom and the cooperating teacher, (2) getting involved with daily classroom tasks, and (3) taking over fulltime teaching responsibility for a specific number of hours (Bacharach, Heck, & Dahlberg, 2010; Henderson, Beach, & Famiano, 2009; Ronfeldt & Reininger, 2012). The cooperating teacher and university supervisor observe and mentor the preservice teacher during the entire field experience providing feedback and support (Ambrosetti & Dekkers, 2010; Rubenstein, Thoron, & Estep, 2014; Smalley, Retallick, & Paulsen, 2015). The performance and professional behavior of the preservice teachers are evaluated by the

cooperating teacher and university supervisor multiple times during these experiences (Ambrosetti & Dekkers, 2010).

National and state accreditation agencies all require that approved teacher education programs deliver high-quality field experiences that provide teacher candidates the experience they need before they start in their own classrooms (AACTE, 2010; CAEP, 2013). These agencies provide guidelines for the quality field experiences for teacher education programs such as a minimum number of required hours, qualifications of university supervisors, candidate qualifications for the student teaching, reliability and validity of field experience evaluation forms, and placement diversity (AACTE, 2010; CAEP, 2013).

The purpose of this study was to (1) describe how a teacher education institution developed a web application to record and calculate diversity of the field practicum placements; and (2) describe how the institution used the placement diversity data to research program improvement and decision making.

### **Project Description**

This study was conducted at a teacher education institution in the southeast in which all undergraduate and graduate teacher education programs are accredited at the state (FLDOE, Florida Department of Education) and the national levels (CAEP, Council for the Accreditation of Educator Preparation). The institution has been using an in house developed assessment system in order to collect and analyze its institutional data for accreditation purposes since summer 2013 including but not limited to program matrices, student assessment portfolios, state test scores, internship data, graduation checklists, and program graduates and employer surveys. For the internship data, the institution records every field placement in its assessment system including candidate demographics, and school/classroom information, designated cooperating teacher, and university supervisor. It also records every field evaluation completed by the

*Journal of Research in Education*, Volume 30, Issue 1

cooperating teacher and university supervisor for each candidate.

### **Recording Placement Diversity Data (School and Classroom Demographics)**

According to CAEP and FLDOE, Placement Diversity Data include demographic data for each placement at the classroom and/or school level. These demographic data include (1) gender, (2) ethnicity, (3) socioeconomic status (free/reduced lunch), (4) the number of English Language Learners (ELL), and (5) the number of Exceptional Student Education (ESE) programs. The institution uses three different methods to collect school/classroom demographics data to determine the diversity level of practicum placements for its preservice teachers. Table 1 describes these methods.

Table 1. *Data Collection Methods for School/Classroom Demographics*

<b>Data</b>	<b>Method 1</b>	<b>Method 2</b>	<b>Method 3</b>
Data Collection	Collected from preservice teachers	Collected from university supervisors and cooperating teachers	Collected from the National & State School Database (NCES & State Databases)
Advantages	Data at the classroom level	Data at the classroom level	Data collected before placement
Disadvantages	Data collected after placement	Data collected after placement	Data at the school level

In Method 1, the institution collects classroom demographics data from preservice teachers after the placement. At the beginning of the field practicum, including student teaching, preservice teachers are asked to fill out an online classroom demographics form using their assessment system account for their placements. The collection of the data in this method is very useful since the data are at the classroom level which ensures that the data can help determine whether the preservice teachers are placed in diverse classrooms. However, because the data are collected only after the placements are made, it does not leave any opportunity for the internship office to move preservice teachers to other classrooms in the cases where the original classroom is not diverse. It is also very difficult to collect classroom demographics data before the school

starts since the classroom demographics data are usually not open to the public.

Method 2 resembles Method 1 in the kind of data collected. The institution collects classroom level specific data from cooperating teachers and university supervisors at the end of the semester. This method helps verify student provided data. Similar to the previous method, the data in this type of collection are specific but cannot be used in field placement decisions due to the timing of the data collection.

In order to help the internship office identify placement diversity before the placements are completed, the institution developed a third method where it uses state and national school demographics. This data is exported from the National Center for Educational Statistics (NCES) to the institution's assessment system annually. The advantage of this method is that diversity data can be obtained before practicum placements are made; thus, these data can be used in such decisions. In this method, the data are consistent and easy to work with since all of the data have already been imported into the assessment system. Currently, the assessment system is set up to utilize all three methods. Table 2 shows a school diversity placement report for the institution's placement for the undergraduate programs during the spring 2016 semester.

*Table 2. Basic Placement Data with School Demographics*

District	School	# of Plac.	Gender %		Ethnicity %					Soci		ELL %		ESE %		Diverse ?	
			M	F	Whi	Bla	His	Asi	Haw	AmI	Tw+	F/R	%	%	?		
Hernando	Chiles Elementary	4	53	47	39	16	22	17	0	0	6	36	13	6	?		
Pinellas	Mount Vernon Elemen.	3	52	48	46	32	11	5	0	0	6	52	5	5	?		
Pinellas	Meadowlawn Middle	3	52	48	60	15	14	7	0	1	3	38	6	5	?		
Pinellas	Pinellas Park High	3	51	49	58	12	19	7	0	0	4	43	3	6	?		
Pinellas	Tyrone Middle	3	50	50	50	21	19	11	0	0	3	62	7	5	?		
Hernando	West Hernando Middle	3	51	49	72	17	8	1	0	0	2	51	2	2	?		
Pasco	River Ridge Middle	2	52	48	82	2	9	3	0	0	4	35	1	2	?		
Pinellas	Sandy Lane Elementary	2	58	42	16	49	25	1	0	0	9	74	12	5	?		
Pinellas	Paul B. Stephens	2	67	33	72	11	12	1	0	0	4	38	7	5	?		
Pinellas	Blanton Elementary	2	54	46	52	17	19	9	0	0	4	54	5	5	?		

Even though the report in Table 2 has useful information, it does not provide a standard way of judging whether a school is diverse enough for practicum placements. Teacher education literature does not provide clear guidelines regarding this matter other than suggesting that preservice teachers have field experiences in diverse settings. In order to offer a solution to this problem, we utilized the Simpson's Diversity Index formula as described below.

### **Calculating Diversity with Simpson's Diversity Index**

While teacher education programs are required to place preservice teachers in diverse schools/classrooms, the conceptualization and measurement of diversity remains a challenge. Currently, the most common approach to measuring diversity in education is to count the percentage of various demographic categories (e.g., race, ethnicity, gender, age) for a given population. In their placement diversity reports, most of the teacher education programs simply list the percentage of the diversity categories for each of the student placement. The use of proportion is the most common approach because of its simplicity and lack of a viable alternative. However, the use of these metrics cannot describe adequately whether a school is diverse enough. For example, a school with 50% males and 50% of females can be said to be perfectly diverse in terms of gender diversity. On the other hand, it is not possible to determine if a school is diverse with a 25% male and 75% female population in terms of gender. In addition, dealing with the proportions of multiple ethnic groups makes the task more challenging.

In this study, researchers used the “Simpson’s Diversity Index” formula in order to calculate the diversity of a school as a single number for each diversity category (ethnicity, gender, socioeconomic status, etc.). Simpson's Diversity Index is a measure of diversity that takes into account the number of plant species present, as well as the relative abundance of each species. As species' richness and evenness increase, so does diversity. Although it has been used

in ecological studies, researchers in education are now using it to study the extent of ethnic diversity in educational settings (Graham, et al., 2009; Lee, Howes, & Chamberlain, 2007). It is an arithmetic mean weighted by its own observed probability. Simply put, when you randomly select two students from a school, the probability of getting students from different demographics should be as high as possible. The diversity index score ranges from 0 to 1. The closer a school's diversity index number is to 1, the more diverse the student population is. Schools whose enrollment is made up of mostly one ethnic group will not score highly using this formula because students are highly unlikely to encounter others from different ethnic backgrounds. The diversity index formula is presented as:

$$\text{Diversity Index} = 1 - D = \frac{\sum n_i(n_i - 1)}{N(N - 1)}$$

$$n_i = \text{total number of each category}$$

$$N = \text{total number of the population}$$

Simpson's Diversity Index is used in numerous demographic studies. For example, Reese-Cassal (2015) used the Diversity Index formula for ethnic diversity and reported that "The United States had a 2010 Diversity Index of 0.6, based on census counts. The Diversity Index based on 2014 updates was 0.62, and it is expected to rise to 0.65 in 2019. A Diversity Index of 0.65 translates to a probability of 65 percent that two people randomly chosen from the US population would belong to different race or ethnic groups" (p. 9).

### **Application of Simpson's Diversity Index within Our Assessment System**

Once the placement data are entered (student teacher, placement school, cooperating teacher, university supervisor), the institution's assessment system is able to (1) retrieve the school/district demographics data from its database, (2) apply Simpson's Diversity Index Formula to calculate school and district diversity value (0 to 1) and (3) compare school diversity scores

with that of the district in order to determine whether the school is diverse. The assessment system determines school demographics as “diverse” in each element if the school diversity value is equal to or greater than the district’s diversity value.

When Simpson’s Diversity Index is applied within the practicum placement section of the assessment system, the previous school diversity report provided in Table 1 becomes more useful in terms of comparison. Most importantly, the system shows whether the school population was diverse when compared to its district. In our placement, we consider a school diverse if the school’s diversity index is equal to or higher than the district’s diversity index. Table 3 shows the diversity score for each diversity category and the diversity decision.

*Table 3. Placement Data with School Diversity Index*

District	School	# of		Gender		Ethnicity		Socioeconomic		ELL		ESE		Diversity
		Plac.	School	District	School	District	School	District	School	District	School	District	Is School Diverse?	
Hillsborough	Chiles Elementary	4	49.8	48.9	74.5	70.1	49.3	48.8	22.6	21.1	9.8	9.7	●	
Pinellas	Mount Vernon Elemen.	3	49.9	47.1	67.1	60.2	49.9	49.0	9.5	8.8	9.4	9.4	●	
Pinellas	Meadowlawn Middle	3	49.9	47.1	59.2	60.2	46.6	49.0	7.1	8.8	9.8	9.4	●	
Pinellas	Pinellas Park High	3	50.3	47.1	62.3	60.2	49.2	49.0	11.2	8.8	13.2	9.4	●	
Pinellas	Tyrone Middle	3	49.9	47.1	67.1	60.2	49.1	49.0	10.3	8.8	9.7	9.4	●	
Hernando	West Hernando Middle	3	49.9	49.9	42.4	70.1	45.2	46.0	3.9	5.8	9.8	11.3	●	
Pasco	River Ridge Middle	2	51.8	49.9	32.6	51.7	49.9	49.8	1.9	7.6	3.9	5.8	●	
Pinellas	Sandy Lane Elementary	2	49.3	47.1	65.4	60.2	49.1	49.0	13.6	8.8	11.9	9.4	●	
Pinellas	Paul B. Stephens ESE	2	43.7	47.1	45.5	60.2	49.5	49.0	7.2	8.8	8.0	9.4	●	
Pinellas	Blanton Elementary	2	49.8	47.1	65.2	60.2	49.6	49.0	11.5	8.8	13.5	9.4	●	

*Green Dot: School is diverse: the school diversity index is higher than or equal to the district diversity index. Red Dot: School is not diverse: school diversity index is lower than the district diversity index*

As Table 3 indicates, if a school has a lower diversity index than the district, then it is not considered diverse in a given diversity category and it is marked in red. In addition to placement reports aggregated by the program, the institution is able to use the same data to create individual preservice teacher reports. These individual placement reports provide information to help the

internship office, program advisors, and assessment coordinators to determine whether a preservice teacher was placed in a diverse school. The system now ensures that before graduation, a preservice teacher has been placed in a diverse school at least once in each of the diversity elements (gender, ethnicity, socioeconomic, ELL, ESE). Figure 1 shows a screenshot of the diversity of practicum placements for two different preservice teachers with fictitious names.

Student	Level I (K-5) Internship	Level II (6-12) Internship	Final Internship Part I (Elementary)	Final Internship Part II (ESE)
 Name: Heather Blue Program: B.S. in Education Level: Undergraduate Email: <a href="mailto:hblue@usfsp.edu">hblue@usfsp.edu</a>	Semester: Spring 2011 District: Pasco School: Odessa Elementary Grade: 3 Supervisor: G. Stires Coop. Teacher: J. Henry # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Fall 2011 District: Pasco School: Crews Lake Middle Grade: ESE-Middle Supervisor: T. Keys Coop. Teacher: J. Crumley # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: red;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Spring 2012 District: Pasco School: New River Element. Grade: 4 Supervisor: B. Braun Coop. Teacher: L. Carlson # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: red;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Spring 2012 District: Pasco School: New River Element. Grade: ESE-Elementary Supervisor: B. Braun Coop. Teacher: G. Allan # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>
 Name: George Blue Program: B.S. in Education Level: Undergraduate Email: <a href="mailto:gblue@usfsp.edu">gblue@usfsp.edu</a>	Semester: Spring 2011 District: Pinellas School: Blanton Elementary Grade: Kindergarten Supervisor: D. McCaffrey Coop. Teacher: C. Keene # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Fall 2011 District: Pinellas School: Pinellas Park High Grade: ESE-High Supervisor: N. Medley Coop. Teacher: E. Gulino # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Spring 2012 District: Pinellas School: Skyview Element. Grade: 4 Supervisor: B. Braun Coop. Teacher: K. Zwissler # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: red;">●</span> <a href="#">Placement Details &amp; Evaluations</a>	Semester: Spring 2012 District: Pinellas School: Marjorie Kinnan El. Grade: ESE-Elementary Supervisor: B. Braun Coop. Teacher: K. Stauffer # of PBA Evaluations: 3 # of Internship Evaluations: 3 School Diversity: Get: <span style="color: green;">●</span> Eti: <span style="color: green;">●</span> So: <span style="color: green;">●</span> EL: <span style="color: green;">●</span> ES: <span style="color: green;">●</span> <a href="#">Placement Details &amp; Evaluations</a>

**Figure 1.** Candidate Placement Report

As Figure 1 indicates, both preservice teachers have been placed in settings that were diverse in each diversity category by the time they graduated. With this information available for each preservice teacher, the institution is able to build diversity reports for programs and individual preservice teachers. As a result of this, the internship office started backfilling the data for earlier semesters/years in order to (1) move manual data from Excel to an online database and (2) provide access to faculty to conduct research for program improvement and decision making.

In the current study, we utilized the data provided by the assessment system to examine how diversity levels of practicum placements and measures collected during student teaching (last practicum in the teacher education programs) correlated with each other.

## **Methodology**

The application of the School Diversity Index formula on placement data has created many possibilities for new research. The new system enabled the institution to build real-time dynamic reports for multiple purposes including (1) placement diversity reports, like above, aggregated by the individual preservice teacher, field practicum course, and program; (2) use the diversity reports for state and national accreditation; and (3) further research as a decision-making tool for program improvements. With the new system, researchers used the available data to investigate the following research questions:

- Is there a relationship between student-teacher placement diversity and student-teacher evaluation scores?
- Is there a relationship between student-teacher placement diversity and employment placement diversity?
- Is there a relationship between student-teacher placement diversity and graduate/employer satisfaction?

The sample included student teachers (preservice teachers in their last semester) placed in schools within the last 5 academic years from 2014-15 to 2018-19 school years. The total number of participants was 387.

In order to investigate the relationship between the diversity of practicum placements of student teachers and the other variables, the Pearson moment product correlation was utilized. The diversity of practicum placement was calculated based on the result of Simpson's Diversity Index. If a student-teacher was placed in a school that was considered diverse in terms of all 5 diversity categories, then, that student received a score of 5 for the diversity of practicum placement and that placement is considered a 5-star placement. To further illustrate, if a student-

teacher was placed in a school that was considered diverse in 3 of the 5 diversity categories based on the Simpson's Diversity Index formula, then that student-teacher was assigned a score of 3 for the diversity of practicum placement and that placement is considered a 3-star placement. All correlation analyses were conducted using Statistical Package for Social Science (SPSS 23).

## Results

### Placement Diversity and Student-Teacher Evaluation Scores

#### *The Professional Behavior Evaluation Form (PBE)*

The institution in this study adopted a set of professional behaviors / dispositions that it feels are essential for prospective teachers. The Professional Behavior Assessment instrument is used for assessing preservice teachers' professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as they interact with students, families, colleagues, and communities. The instrument has a total of 20, 5-point Likert-scaled questions focusing on dispositions such as time management, demonstrating ethical behaviors, demonstrating enthusiasm, demonstrating collaboration with colleagues, working with parents, etc. Each candidate has their disposition evaluated before the end of the field experience by both cooperating teacher and university supervisor.

According to the program policy, failure to demonstrate success on one or more of the dispositions leads to an individualized plan for improvement and, in extreme cases, leads to removal from the teacher preparation program. The instrument was found to be reliable (20 items;  $\alpha=.79$ ). Table 4 presents descriptive statistics on Professional Behavior Evaluations of preservice teachers.

Table 4. *Descriptive Statistics on Professional Behavior Evaluations*

Academic Year (Semesters)	Interns Total (n)	Placement Diversity				
		5-star Placement	4-star Placement	3-star Placement	2-star Placement	1-star Placement
2018-2019 (Fall 18 & Spring 19)	65	N=52 M=4.83 SD=1.85	N=8 M=4.77 SD=1.63	N=4 M=4.81 SD=1.82	N=1 M=4.50 SD=0	N=0
2017-2018 (Fall 17 & Spring 18)	82	N=67 M =4.74 SD=2.11	N=11 M=4.79 SD=1.47	N=3 M=4.71 SD=1.09	N=1 M=4.00 SD=0	N=0
2016-2017 (Fall 16 & Spring 17)	75	N=55 M=4.75 SD=2.36	N=13 M=4.74 SD =1.86	N=5 M=4.77 SD =1.47	N=2 M=4.50 SD=0.70	N=0
2015-2016 (Fall 15 & Spring 16)	86	N=68 M=4.68 SD =2.09	N=12 M=4.75 SD =2.57	N=5 M=4.49 SD =1.94	N=1 M=4.50 SD =0	N=0
2014-2015 (Fall 14 & Spring 15)	79	N=63 M=4.81 SD =2.36	N=8 M=4.83 SD =2.12	N=6 M=4.88 SD =1.87	N=1 M=4.50 SD =0	N=0

Five-star placement indicates a student placement school that is diverse in all five diversity elements (gender, ethnicity, socioeconomic, ELL, and ESE), while 1-star indicates a school that is diverse in only one of the diversity elements (gender, ethnicity, socioeconomic, ELL and ESE).

As Table 4 indicates, most of the student teachers had 4 or 5-star placements. The mean scores indicate a high level of success in professional behaviors for all students although the diversity level of their placement varied to some extent.

### ***The Internship Evaluation Form (IE)***

The Internship Evaluation form is a questionnaire grounded in the six Florida Educator Accomplished Practices (FEAPs) set by the Florida Department of Education. The Florida Educator Accomplished Practices (FEAPs) are Florida's core standards for effective educators and provide valuable guidance to Florida's public-school educators and educator preparation programs throughout the state on what educators are expected to know and be able to do. The

instrument has a total of 38, 5-point Likert-scaled questions focusing on domains such as instructional design and lesson planning, learning environment, instructional delivery and facilitation, assessment, continuous professional improvement, and professional responsibility and ethical conduct. Each candidate is evaluated before the end of the field experience by both the cooperating teacher and university supervisor. According to the program policy, failure to demonstrate success on one or more of the items leads to an individualized plan for improvement or repetition of the course and, in extreme cases, leads to removal from the teacher preparation program. The reliability analysis showed that the Internship Evaluation was found reliable (38 items;  $\alpha=.73$ ).

*Table 5. Descriptive Statistics on Internship Evaluations*

Academic Year (Semesters)	Interns Total (n)	Placement Diversity				
		5-star Placement	4-star Placement	3-star Placement	2-star Placement	1-star Placement
2018-2019 (Fall 18 & Spring 19)	65	N=52 M=4.07 SD=1.19	N=8 M=4.49 SD=0.53	N=4 M=4.78 SD=0.82	N=1 M=5 SD=0	N=0
2017-2018 (Fall 17 & Spring 18)	82	N=67 M=4.11 SD=1.24	N=11 M=4.35 SD=0.52	N=3 M=4.62 SD=0.82	N=1 M=5 SD=0	N=0
2016-2017 (Fall 16 & Spring 17)	75	N=55 M=4.04 SD=1.19	N=13 M=4.41 SD=0.86	N=5 M=4.72 SD=0.84	N=2 M=5 SD=0.14	N=0
2015-2016 (Fall 15 & Spring 16)	86	N=68 M=4.16 SD=1.28	N=12 M=4.39 SD=1.51	N=5 M=4.81 SD=0.84	N=1 M=5 SD=0	N=0
2014-2015 (Fall 14 & Spring 15)	79	N=63 M=4.19 SD=1.06	N=8 M=4.41 SD=1.43	N=6 M=4.75 SD=1.04	N=1 M=5 SD=0	N=0

Internship evaluation data indicate that student teachers placed in more diverse schools tended to score lower in the evaluations as indicated by the mean scores (Table 5).

### **Teacher Work Sample (TWS)**

Teacher Work Sample is a performance-based narrative prepared by the student-teacher with a focus on increased student learning. It provides written evidence that documents the

student teacher's ability to increase student learning. It is used as an instructional process and as a performance assessment tool during student teaching to measure teacher candidate effectiveness. Teacher Work Sample is evaluated with a rubric that includes 43, 5-point Likert-scaled items focusing on eight domains, including contextual factors, learning goals/objectives, assessment plan, design for instruction, instructional delivery, instructional decision making, analysis of student learning, and reflection/self-assessment. The Teacher Work Sample assignment is evaluated by the university supervisor, cooperating teacher, and faculty from the program in order to ensure interrater reliability (Table 6). The average score is reflected as the final score. The interrater reliability analysis showed that the rubric used for the rubric was found reliable (43 items;  $\alpha=.87$ ).

*Table 6. Descriptive statistics on Teacher Work Sample*

Academic Year (Semesters)	Interns Total (n)	Placement Diversity				
		5-star Placement	4-star Placement	3-star Placement	2-star Placement	1-star Placement
2018-2019 (Fall 18 & Spring 19)	65	N=52 M=4.02 SD=1.06	N=8 M=4.43 SD=1.33	N=4 M=4.76 SD=1.05	N=1 M=5 SD=0	N=0
2017-2018 (Fall 17 & Spring 18)	82	N=67 M=4.11 SD=1.69	N=11 M=4.39 SD=0.98	N=3 M=4.72 SD=1.07	N=1 M=4.95 SD=0.94	N=0
2016-2017 (Fall 16 & Spring 17)	75	N=55 M=4.08 SD=1.88	N=13 M=4.54 SD=1.44	N=5 M=4.88 SD=1.95	N=2 M=5 SD=0	N=0
2015-2016 (Fall 15 & Spring 16)	86	N=68 M=4.16 SD=2.13	N=12 M=4.33 SD=1.69	N=5 M=4.56 SD=1.23	N=1 M=5 SD=0	N=0
2014-2015 (Fall 14 & Spring 15)	79	N=63 M=4.21 SD=1.44	N=8 M=4.33 SD=1.76	N=6 M=4.74 SD=1.05	N=1 M=5 SD=0	N=0

Like the internship evaluation data, teacher work sample data indicate that student teachers with higher star ratings of placement diversity tended to show lower mean scores. A Pearson product-moment correlation was conducted to determine the relationship between placement

diversity index and intern scores on PBE, IE, and TWS evaluations. Table 7 presents the correlation coefficients and p values.

**Table 7. Placement Diversity vs. Intern Evaluations**

Academic Year (Semesters)	Interns	Prof. Behavior Evaluation (PBE)		Internship Evaluation (IE)		Teacher Work Sample Evaluation (TWSE)	
		n	r	p	r	p	r
2018-2019 (Fall 18 & Spring 19)	65	-.236	0.02	-.669	0.01	-.628	0.01
2017-2018 (Fall 17 & Spring 18)	82	.124	0.04	-.654	0.01	-.643	0.01
2016-2017 (Fall 16 & Spring 17)	75	-.318	0.02	-.678	0.01	-.713	0.01
2015-2016 (Fall 15 & Spring 16)	86	-.215	0.03	-.705	0.01	-.681	0.01
2014-2015 (Fall 14 & Spring 15)	79	.267	0.03	-.676	0.01	-.651	0.01

As Table 7 indicates, the diversity index of the practicum placements and the internship evaluations showed weak as well as very strong correlations. In most cases, the diversity of the internship placement had a strong negative relationship with the internship evaluations and teacher work samples while weaker relationships existed with professional behavior evaluations. In general, preservice teachers who had more diverse placements tended to perform poorer in the practicum assessments.

### ***Internship Placement Diversity and Employment Placement Diversity***

The creation of school diversity index data at the school, district, and state-level opened new opportunities for research. With the use of new data, the researchers in this study explored whether a relationship existed between internship placement diversity and diversity of the schools where the program graduates were employed. The Florida Department of Education (FLDOE) provides employment data for each teacher education institution that has state-approved initial teacher preparation programs (ITPs) or educator preparation institutes (EPIs). The Excel data provided by FLDOE includes the list of graduates from the institution working at public schools in Florida.

These data include the names of the graduates, the schools where they are employed, their

positions at the school (teacher, substitute, reading coach, etc.), the subject area, and the grade level they teach. These data are imported into the assessment system and used for program evaluation, graduation follows up surveys, and accreditation reports.

In order to understand whether a relationship exists between internship and employment placement diversity, the researchers used a Pearson product-moment correlation on internship and employment data (Table 8).

**Table 8. Internship Placement Diversity vs. Employed School Diversity**

Academic Year (Semesters)	Graduates employed at Florida Public Schools (n)	Employment Placement Diversity (r)	(p)
2018-2019 (Fall 18 & Spring 19)	44	.765	0.01
2017-2018 (Fall 17 & Spring 18)	36	.823	0.01
2016-2017 (Fall 16 & Spring 17)	41	.408	0.01
2015-2016 (Fall 15 & Spring 16)	33	.264	0.04
2014-2015 (Fall 14 & Spring 15)	38	.781	0.01

The results in Table 8 indicate that in all the years included in the study there was a significant positive correlation between the diversity of internship placement and diversity of the schools where program graduates were employed. In other words, most of the student teachers completing their internship in diverse schools obtained employment in diversely populated public schools in the state.

#### ***Internship Placement Diversity and Graduate & Employer Satisfaction***

In fulfillment of section 1004.04(5), Florida Statutes, the Florida Department of Education (FDOE) conducts an annual survey of individuals (Graduate Satisfaction) who have completed a Florida state-approved Initial Teacher Preparation Program, an Educator Preparation Institute, or a District Alternative Certification Program and currently are employed in an instructional position in a Florida school district. In addition, depending on school districts' schedules and individual requests, FDOE sends an email containing a link to a web-based survey to completers requesting that they complete a brief online survey on their perception and satisfaction with their

preparation program. FDOE also surveys the principals (employers) on their perception of each completer's readiness for the teaching profession - Employer (Principal) Satisfaction Survey. Survey results are analyzed to assist FDOE, districts, and institutions in making decisions for improving teacher preparation programs offered in Florida. The survey results are then shared with individual teacher preparation institutions to help identify program improvement areas. Both surveys are streamlined to focus on the Florida Educator Accomplished Practices. While the graduate satisfaction survey has a total of 39, 5-point Likert-scaled questions focusing on the effectiveness of the teacher education program on the six domains, the employer satisfaction survey provides a total of 36, 5-point Likert-scaled questions focusing on principals' perception of each completer's readiness for the teaching profession in the same six domains. The reliability analysis showed high scores for graduate satisfaction and employer satisfaction instruments. (39 items;  $\alpha=.79$ , 36 items;  $\alpha=.81$  respectively) (Tables 9, 10).

*Table 9. Descriptive Statistics on the Graduate Satisfaction Survey*

Survey Year (Semesters)	Graduates (n)	5-star Placement	4-star Placement	3-star Placement	2-star Placement	1-star Placement
2018-2019 (Fall 18 & Spring 19)	21	N=13 M=4.85 SD=1.56	N=5 M=4.51 SD=1.84	N=3 M=4.43 SD=1.34	N=0	N=0
2017-2018 (Fall 17 & Spring 18)	17	N=11 M=4.91 SD=1.66	N=4 M=4.66 SD=1.74	N=2 M=4.50 SD=0.70	N=0	N=0
2016-2017 (Fall 16 & Spring 17)	22	N=12 M=4.88 SD=1.63	N=9 M=4.62 SD=1.24	N=1 M=4.57 SD=0	N=0	N=0
2015-2016 (Fall 15 & Spring 16)	24	N=15 M=4.92 SD=1.86	N=6 M=4.77 SD=1.35	N=3 M=4.54 SD=1.26	N=0	N=0
2014-2015 (Fall 14 & Spring 15)	21	N=14 M=4.87 SD=1.29	N=5 M=4.74 SD=1.71	N=2 M=4.72 SD=0.74	N=0	N=0

Table 10. *Descriptive Statistics on the Employer Satisfaction Survey*

Survey Year (Semesters)	Employers (n)	5-star Placement	4-star Placement	3-star Placement	2-star Placement	1-star Placement
2018-2019 (Fall 18 & Spring 19)	19	N=11 M=4.79 SD=1.05	N=6 M=4.24 SD=1.22	N=2 M=4.19 SD=0.67	N=0	N=0
2017-2018 (Fall 17 & Spring 18)	11	N=7 M=4.83 SD=1.79	N=2 M=4.39 SD=1.13	N=1 M=4.11 SD=0	N=1 M=3.96 SD=0	N=0
2016-2017 (Fall 16 & Spring 17)	14	N=5 M=4.94 SD=1.26	N=6 M=4.55 SD=1.81	N=3 M=4.21 SD=1.09	N=0	N=0
2015-2016 (Fall 15 & Spring 16)	13	N=8 M=4.71 SD=1.54	N=2 M=4.58 SD=1.79	N=3 M=4.33 SD=1.80	N=0	N=0
2014-2015 (Fall 14 & Spring 15)	18	N=10 M=4.68 SD=1.64	N=4 M=4.64 SD=1.77	N=4 M=4.22 SD=1.62	N=0	N=0

With the use of these data, the authors of this study investigated whether a relationship existed between the diversity of internship placement and graduate and employer satisfaction using a Pearson product-moment correlation (Table 11).

Table 11. *Placement Diversity vs. Graduate & Employer Satisfaction*

Academic Year (Semesters)	Graduate Satisfaction			Employer Satisfaction		
	Graduates (n)	(r)	(p)	Employers (n)	(r)	(p)
2018-2019 (Fall 18 & Spring 19)	21	.685	0.01	19	.734	0.01
2017-2018 (Fall 17 & Spring 18)	17	.701	0.01	11	.691	0.01
2016-2017 (Fall 16 & Spring 17)	22	.755	0.01	14	.764	0.01
2015-2016 (Fall 15 & Spring 16)	24	.806	0.01	13	.627	0.01
2014-2015 (Fall 14 & Spring 15)	21	.153	0.04	18	.663	0.01

The result of the correlation analysis indicated a strong positive relationship between placement diversity and program completion and employer satisfaction. In other words, students completing their internship in more diverse schools had a tendency to be more satisfied with their preparation. Similarly, employers tended to show more satisfaction with graduates who completed their teacher preparation with more diverse placements.

## **Discussion**

Diversity of field experiences in teacher education has been recognized as a critical element. The inclusion of a diversity of field experiences in teacher education accreditation standards is a clear indication of this. However, there is not an agreed-upon understanding of what is meant by diverse field experiences. What makes a field practicum site diverse? If a school has 90% minority and 10% non-minority students, can we consider this school diverse? What diversity categories (gender, ethnicity, ELL status, etc.) should be included in decisions regarding the diversity of field experience sites? This study aimed to contribute to the collective understanding of the teacher education community on diverse practicum experiences. We argue that using Simpson's Diversity Index with district and school demographic data for such decisions creates opportunities for teacher education institutions to approach this issue in a systematic way. Our experience with this system indicates that it is easy to implement and allows us to use the data for program improvement and accreditation purposes.

The second part of the study focused on the possible relationship between internship placement diversity and various internship evaluations, employer and graduate satisfaction, and graduate job placement. The analysis of the data for the first question showed that there was a strong negative correlation between the internship placement diversity and internship evaluations including teacher work sample scores. This negative correlation is important and requires specific attention. It indicates that student teachers placed in diverse schools tend to receive lower scores in their internship evaluations and teacher work samples compared to those who were placed in less diverse schools. The result of this study aligns with the current literature that teaching a truly diverse group of students is much more challenging than teaching a homogeneous one (Wilson et al., 2002). It requires responsiveness to diversity such as positive

attitude, appreciation, accommodation of differences among students, and planning and use of a variety of instructional strategies and learning activities (Sleeter & Grant, 1994).

The data also indicated that there was a significant positive relationship between the field and employment placement diversity which clearly shows that students placed in more diverse schools for the field placements are usually working in more diverse schools after program completion. It is encouraging to see that while student teachers placed in more diverse schools tended to score lower in their internship assessments, they still chose to seek employment in diverse schools.

Finally, when researchers looked at the relationship between placement diversity and program completer/employment satisfactory scores, the results showed strong positive relationships. In other words, students who were placed in diverse schools during their internship tended to be more satisfied with the preparation they received. Similarly, employers of those who had diverse placements expressed more satisfaction with the performance of the graduates.

### ***Curricular Implications***

Working with an assessment system where diversity is defined using Simpson's Diversity Index allowed the teacher education institution to engage in program improvement efforts. For example, as a result of the lower scores in student teaching assessments of preservice teachers who were placed in diverse schools, the teacher education institution added diversity related to content to multiple courses to prepare the preservice teachers for these field practicums. Some examples of these curricular changes include:

- Classroom Management: Addition of a two-week module on “Classroom Management for Diverse Students”.
- Instructional Design: Expansion of the topic “Differentiated Instruction for Diverse Learners”.

- Standard Based Education: Addition of a two-week module on “Culturally Responsive Practices” and “Working with Diverse Students”.
- Multiple courses: Replacement of faculty selected course activities with a new “Case/scenario Based Activities” on working with diverse students.

### **Conclusion**

When all of the findings are put in perspective together, it seems reasonable that preservice teachers who had more diverse practicum placements and obtained jobs in diverse schools were satisfied with their preparation because of the relevance of the practicum experiences to their employment site. Because these preservice teachers experienced diverse classrooms in their teacher preparation, obtaining employment in the diverse classrooms did not subject them to an unfamiliar context. Therefore, they have felt more comfortable and efficacious in their jobs.

The findings of this study also indicate the importance of placing preservice teachers in diverse schools for field practicums. As indicated by our analyses, diverse placements were related to positive outcome measures like graduate and employer satisfaction. Teacher preparation programs should provide preservice teachers with the information and experiences necessary for successful employment in the increasingly diverse public schools. Because there is a greater likelihood that teachers will be working with students whose cultural backgrounds differ greatly from their own (Dilworth, 1992; Fox & Gay, 1995), it is of great importance that teachers become aware of individual cultural perspectives and that they have an opportunity to reflect on various forms of diversity. Finally, the researchers collected and published the diversity score for all of the public schools in the United States and made it available for other institutions to use ([schooldiversity.com](http://schooldiversity.com)).

## References

- Ambrosetti, A. & Dekkers, J. (2010). The interconnectedness of the roles of mentors and mentees in pre-service teacher education mentoring relationships. *Australian Journal of Teacher Education*, 35(6), 42-55.
- American Association of Colleges for Teacher Education (AACTE). (2010). *Reforming Teacher Education: The critical clinical component*. Washington, DC.
- Anderson, L. M., & Stillman, J. A. (2013). Student teaching's contribution to preservice teacher development: A review of research focused on the preparation of teachers for urban and high-needs contexts. *Review of Educational Research*, 83, 3–69.
- Bacharach, N., Heck, T., & Dahlberg, K. (2010). Changing the face of student teaching through co-teaching. *Action in Teacher Education*, 32(1), 3-14.
- Cochran-Smith, M., & Zeichner, K. M. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Council for the Accreditation of Educator Preparation (CAEP). (2013). *CAEP Accreditation Standards*. Washington, DC.
- Cuenca, A., Schmeichel, M., Butler, B., Dinkelman, T., & Nichols, J. (2011). Creating a “third space” in student teaching: Implications for the university supervisor’s status as an outsider. *Teaching and Teacher Education*, 27(7) 1068-1077.
- Dilworth, M. (1992). *Diversity in teacher education: New expectations*. San Francisco: Jossey-Bass.
- Florida Department of Education (FLDOE). (2020). *State-Approved Educator Preparation Programs*. Retrieved on January 3, 2020, from <http://www.fl DOE.org/teaching/preparation/initial-teacher-preparation-programs/approved-teacher-edu-programs.shtml>
- Finley, S. (2000). Transformative teaching for multicultural classrooms: Designing curriculum and classroom strategies for master’s level teacher education. *Multicultural Education*, 7(3), 20-27.
- Fox, W., & Gay, G. (1995). Integrating multicultural and cultural principles in teacher education. *Peabody Journal of Education*, 70(3), 64-81.
- Graham, S., Bellmore, A., Nishina, A. & Juvonen, J. (2009). “It Must Be Me”: Ethnic Diversity and Attributions for Peer Victimization in Middle School. *Journal of Youth and Adolescence*, 38(4), p.487-499.

- Henderson, C., Beach, A., & Famiano, M. (2009). Promoting instructional change via co-teaching. *American Journal of Physics*, 77(3), 274-283. doi: 10.1119/1.3033744
- Hollins, E., & Torres-Guzman, M. T. (2005). Research on preparing teachers for diverse populations. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 477-548). Mahwah, NJ: Lawrence Erlbaum.
- Kyndt, E., Donche, V., Gijbels, D., & Van Petegem, P. (2014). Workplace learning within teacher education. The role of job characteristics and goal orientation. *Educational Studies*, 40(5), 515-532. doi: 10.1080/03055698.2014.936829
- Lee, L., Howes, C., & Chamberlain, B. (2007). Ethnic heterogeneity of social networks and cross-ethnic friendships of elementary school boys and girls. *Merrill-Palmer Quarterly*, 53(3), 325-346.
- McIntyre, D. J., Byrd, D. M., & Foxx, S. M. (1996). *Field and laboratory experiences*. In W. R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research on teacher education: A project of the Association of Teacher Educators* (pp. 171-193). New York: Macmillan.
- Reese-Cassal, K. (2015). *2015/2020 Esri Diversity Index*. Retrieved from goo.gl/60Yhjs
- Retallick, M. S., & Miller, G. (2007). Early field experience documents in agricultural education. *Journal of Agricultural Education*, 52(3), 100-109. doi: 10.5032/jae.2007.04020
- Ronfeldt, M., & Reininger, M. (2012). More or better student teaching? *Teaching and Teacher Education*, 28(8), 1091-1106. doi: 10.1016/j.tate.2012.06.003
- Rubenstein, E. D., Thoron, A. C., & Estepp, C. M. (2014). Perceived self-efficacy of preservice agriculture teachers towards specific SAE competencies. *Journal of Agriculture Education*, 55(4), 72-84. doi: 10.5032/jae.2014.04072
- Sleeter, C.E., & Grant, C. (1994). *Making Choices for Multicultural Education: Five Approaches to Race, Class, and Gender*. Englewood Cliffs, NJ: Prentice-Hall.
- Smalley, S. W., Retallick, M. S., & Paulsen, T. H. (2015). Cooperating teachers' perspectives of student teaching skills and activities. *Journal of Agricultural Education*, 56(3), 123-137. doi: 10.5032/jae.2015.04123
- Sorensen, P. (2014). Collaboration, dialogue, and expansive learning: The use of paired and multiple placements in the school practicum. *Teaching and Teacher Education*, 44, 128-137. doi: 10.1016/j.tate.2014.08.010

Steadman, S. C. & Brown, S. D. (2011). Defining the job of university supervisor: A department-wide study of university supervisors' practices. *Issues in Teacher Education*, 20(1). 51- 68.

Wilson, S., Floden, R., & Ferrini-Mundy, J. (2002). Teacher preparation research: An insider's view from the outside. *Journal of Teacher Education*, 53(3), 190-204. doi: 10.1177/0022487102053003002