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Profile of Workforce Development Educators: A Comparative Credential, Composition, and Characteristic Analysis

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ABSTRACT

The Schools and Staffing Survey (SASS) is administered by the National Center for Educational Statistics to obtain information about teachers, such as education and training, teaching assignment, certification, workload, and perceptions and attitudes about teaching. Data are weighted to approximate the population of teachers in the USA. In this study, the most recent SASS results were employed to formulate a comprehensive profile of Career and Technical Education (CTE) teacher characteristics or Workforce Development in Education. Characteristics analyzed included: gender, age, teaching experience, teaching status, race and ethnicity, educational level, certification status, caseload of students with categorical disabilities and caseload of those with limited English proficiency. These characteristics were compared within the seven identified Workforce Development teaching areas and, to make further distinction from akin fields, were also collectively compared to the STEM education fields of science, technology, engineering, and mathematics education. Analysis of the identified characteristics provided a profile of in-service Workforce Development teachers, the students that they teach, how they compare to each other within CTE, and how they compare to other STEM teachers.

Keywords: Schools and Staffing Survey, limited English proficiency, Individuals with Disabilities Act (IDEA) disabilities, teacher characteristics

INTRODUCTION

The importance of Workforce Development classes cannot be understated. Workforce Development initiatives have well-defined linkages to innovation, global competitiveness, as well as economic development (Advance CTE, 2013). Further, Workforce Development courses have been revealed to advance student competencies, problem-solving abilities and STEM-associated knowledge and skills. Students taking Workforce Development classes are more likely to perform as well or better than those not in Workforce Development programs (Castellano, James, Stringfield, Farley, & Wayman, 2004). Students in Workforce Development programs have lower dropout rates and are more likely to receive higher wages than those not enrolled in Workforce Development programs (Kemple & Scott-Clayton, 2004; Plank, DeLuca, & Estacion, 2005).

Also noted advantages of Workforce Development include completion for specific subgroups of students from select socioeconomic and academic backgrounds (Ankeny & Lehmann, 2010; Carter, Trainor, Sun, & Owens, 2011; Palmer & Gaunt, 2007; Wagner, Newman, & Javitz, 2016). Workforce Development classes and programs are important components in the education of students from these special populations. Workforce Development special populations are defined as individuals with disabilities (ADA [American with Disabilities Act], ESEA[Elementary and Secondary Education Act] IDEA [Individuals with Disabilities Act]), economically disadvantaged students, single parents, displaced homemakers, students with limited English proficiency, migrant students, and students in nontraditional programs (Dortch, 2012; U.S. Department of Education, 2012). This study focused on individuals with disabilities as defined by the *Individuals with Disabilities Education Act* (2004) and students with limited English proficiency. These two groups comprised 24 percent of the special population for CTE in 2006 (Dortch, 2012).

Research has shown that Workforce Development classes and programs produce positive outcomes for individuals with disabilities. Enrollment in Workforce Development classes was found to be a positive predictor of employment and post-secondary education (Benz, Lindstrom, & Yovanoff, 2000; Harvey, 2002; Sitlington & Frank, 1990). Test, Mazzotti, Mustian, Fowler, Kortering, and Kohler (2009) found that Workforce Development enrollment was consistently predictive of the post-secondary outcomes of students with disabilities. Similarly, Haber, Mazzotti, Mustian, Rowe, Bartholomew, Test and Fowler (2016) discovered that Workforce Development enrollment was

predictive of employment and that the component of inclusion was also an important factor in this outcome. Mazzotti, Rowe, Sinclair, Poppen, Woods, and Shearer (2016) supported the findings of Test et al., with Workforce Development enrollment and inclusion as being predictive of educational and employment outcomes.

Plasman and Gottfried (2016) observed that students with learning disabilities who took applied STEM courses significantly increased their educational outcomes, had lower dropout rates, increased math test scores, and increased their enrollment in post-secondary education. Gottfried, Bozick, Rose, and Moore (2016) found that Workforce Development experiences consisting of applied STEM courses and school-based experiential programs were inadequate for supporting students with disabilities through the STEM pipeline. However, it is apparent that CTE has a positive impact on individuals with disabilities.

Workforce Development classes are especially important to special populations because in many cases the classes are concentrated on developing skills for the workplace. Students that complete two years or more of a CTE cluster are also eligible to take an industry certification exam, which further prepares them with credentials for the workplace that reflect necessary skills to be ready for the job market. Many Workforce Development programs provide job placement, vocational, and basic skills training, which are especially important to students who will not go on to higher education.

Increased teacher training has been shown to be a factor in helping teachers better understand and teach students with disabilities and limited English proficiency (LEP). Workforce Development teachers can and often carry higher caseloads of students with IDEA disabilities that have individualized education plans (IEPs) and students with LEP than core academic teachers. In some situations, Workforce Development teachers can actually have higher caseloads of IEP students than special education teachers (Ernst & Williams, 2015; Williams, Kaui, & Ernst, 2015).

Avramidis, Bayliss, and Burden (2000) found that teachers who had better teacher training exhibited better and positive attitudes toward inclusion of special education students in their classroom and felt more confident to meet those students' needs. Samson and Lesaux (2009) demonstrated that an improved recognition and understanding of disabilities and LEP are required to best fit students with their educational needs. Further, Samson and Lesaux indicated that improved recognition and understanding could be attributed to access and participation in professional learning opportunities with a focus on assisting teachers in preparation to address unique learner needs.

Kahn and Lewis (2014) surveyed 1,088 K-12 science teachers to determine their level of preparedness to work with students who had disabilities. The results showed that nearly one third of the science teachers had not received training to teach students with disabilities. The majority of those who did indicate receiving such training stated that it was on-the-job training. Similarly, Guardino (2015) surveyed 264 teachers to determine their level of preparedness to work with students who had disabilities. Fifty-four percent reported feeling that their teacher preparation program had prepared them "slightly" to "not at all" to work with these students.

Teacher credentials and teacher professional development have an important impact for teachers working with students with disabilities or LEP. Numerous studies have indicated that there is a lack of preparedness to teach students with disabilities or LEP demonstrating a need for increased training for teachers with regards to special education and LEP. More research needs to be done on how fill these gaps to improve educational outcomes for these populations.

Workforce Development educator credentialing can vary vastly by U.S. state and local education agency considering content area, relevant work experience, preparation, and so forth (Bartlett, 2002). These characteristics have not been collectively compiled and profiled in a comprehensive way within CTE. This results in a broad range of teacher background characteristics that are quite often thought of as dissimilar or inconsistent, specifically provided that the "information is not readily available, and can be confusing [among] states" (Bartlett, 2002, p. 109). Given the influential and important role that Workforce Development teachers serve, what exactly is the characteristic profile of practicing in-service Workforce Development teachers and the number of IEP and LEP students that they teach? Additionally, how do their credentials and caseloads compare to other STEM disciplines?

RESEARCH QUESTIONS

The individualized nature of special education services and variations in the type and intensity of disabilities makes research on interventions and methods for students with disabilities that promote success in Workforce Development challenging. Similar issues exist with the instruction of students with LEP. We believe that that both Workforce Development and the field of special education could benefit tremendously from evidence built on rigorous data and descriptive analyses as it relates to the education of individuals with disabilities. We would also like to expand this idea to the provision of Workforce Development services to students with LEP. By providing an evidence-based accounting of in-service Workforce Development teachers who are working with students with disabilities and students with LEP, their qualifications to work with these students, and their actual caseloads, information could be obtained that would help Workforce Development leaders to better accommodate these students in the classroom and facilitate training for Workforce Development teachers. Workforce Development teachers could also benefit from examining how they compare to the other STEM fields in these areas.

Considering the absence of comprehensive categorical information associated with Workforce Development teacher backgrounds and characteristics, this investigation was launched in an effort to construct a national profile of these educators, the students that they teach, and how these educators compare to educators in other STEM areas. This research addressed the characteristics and qualifications of Workforce Development teachers across seven areas traditionally considered to represent CTE (Agricultural Education, Business & Information Technology Education, Family & Consumer Sciences Education, Health Science Education, Marketing Education, Technology & Engineering Education, and Trade & Industrial Education) who are preparing students for the 21st century workforce. It also compared Workforce Development teachers to other STEM teachers. Specifically this research addressed the following questions:

1. What are the characteristics and credentials of Workforce Development teachers?
    a. What is the gender, mean age, mean teaching experience and teaching status of Workforce Development teachers?
    b. What is the race and ethnicity of Workforce Development teachers?
    c. What is the educational level of Workforce Development teachers?
    d. What is the certification status of Workforce Development teachers?
    e. What certification pathway is most prevalent among Workforce Development teachers (alternative or traditional)?
    f. How do these characteristics compare to other STEM teachers?
2. What student population features and characteristics are identifiable within Workforce Development classrooms?
    a. What is the mean number of students with categorical disabilities served for Workforce Development teachers?
    b. What is the mean number of students with limited English proficiency (LEP) served for Workforce Development teachers?
    c. What is the mean service load (sum of categorical and LEP) served for Workforce Development teachers?
    d. How do these caseloads compare to other STEM teachers?
    e. Are there statistically significant differences between Workforce Development teachers and other STEM teachers regarding service load, categorical disabilities, and LEP caseload?

METHODOLOGY

Participant Selection

In this study, the participants who gave subject-matter codes relating to Workforce Development for the survey question, "This school year, what is your MAIN teaching assignment field at THIS school?" were selected. Participants were placed in their respective disciplines according to the subject matter codes. Table 1 shows codes and descriptors that were used to group the Workforce Development teachers into seven distinct areas. This resulted in 133,480 instances within the weighted results for all Workforce Development teachers with the following breakdown: Agriculture Education (n = 12,220); Business and Information Technology

Education (n = 19,160); Family and Consumer Sciences Education (n = 33,110); Health Science Education (n = 7,490); Marketing Education (n = 6,690); Technology and Engineering Education (n = 46,600); and Trade and Industrial Education (n = 8,210).

The category of STEM teachers consisted of those teachers who responded to teaching science and math. Teachers who responded with codes 211, 212, 213, 217, or 218 (biology or life sciences, chemistry, earth sciences, physics, and other natural sciences) were identified as science teachers. Teachers who responded with codes 191, 192, 193, 194, 195, 196, 198, 199, 200, or 201 (algebra I, algebra II, algebra III, basic and general mathematics, business and applied math, calculus and pre-calculus, geometry, pre-algebra, statistics and probability, and trigonometry) were identified as mathematics teachers. The weighted n for science teachers was 226,700 and the weighted n for math teachers was 281,990.

Table 1: Schools and Staffing Survey Teacher Questionnaire codes and descriptors for Workforce Development main teaching assignment.

Workforce Development Area	Code	Description
Agricultural Education	241	Agriculture and natural resources
Business & Information	242	Business management
Technology Education	243	Business support
Family & Consumer Sciences Education	253	Personal and public services (including culinary arts, cosmetology, child care, social work, protective services, custodial services, and interior design)
	254	Family and consumer sciences education
Health Science Education	245	Healthcare occupations
Marketing Education	244	Marketing and distribution
Technology & Engineering Education	246	Construction trades, engineering, or science technologies (including CADD and drafting)
	250	Communications and related technologies
	255	Industrial arts or technology education
Trade & Industrial Education	247	Mechanics and repair
	249	Manufacturing or precision production (electronics, metalwork, textiles, etc.)

Instrumentation

This study used data from the most recent Schools and Staffing Survey (SASS) conducted the National Center for Educational Statistics and administered by the Institute for Education Sciences. The SASS consists of five questionnaires: A School District Questionnaire, Principal Questionnaire, School Questionnaire, Teacher Questionnaire, and a School Library Media Center Questionnaire. According to Tourkin, Thomas, Swaim, Cox, Parmer, Jackson, Cole, and Zhang, (2010, p. 1):

> The Schools and Staffing Survey (SASS) is conducted by the National Center for Education Statistics (NCES) on behalf of the U.S. Department of Education in order to collect extensive data on American public and private elementary and secondary schools. SASS provides data on the characteristics and qualifications of teachers and principals, teacher hiring practices, professional development, class size, and other conditions in schools across the nation. The overall objective of SASS is to collect the information necessary for a comprehensive picture of elementary and secondary education in the United States. The SASS was designed

to produce national, regional, and state estimates for public elementary and secondary schools and related components and is an excellent resource for analysis and reporting on elementary and secondary educational issues.

Variables Analyzed

Demographic variables analyzed included gender, age, race and ethnicity. Variables related to both qualifications and status were also analyzed. These included total years of teaching experience, employment status, certification route, certification status, and the highest educational level obtained. In addition, variables related to caseload were examined. This included the number of students with IDEA disabilities who required an individualized education plan, the number of students with limited English proficiency (LEP), and the service load of at-risk students with categorized disabilities and LEP.

Procedure

This study consisted of a secondary analysis of the most recent SASS TQ restricted-use license dataset. Specified Institute for Education Sciences (IES) reporting protocols were followed and data findings were submitted to the IES for approval and authorization for release.

Data were analyzed using SPSS 23.0 and AM Statistical Software. Data for the descriptive analyses were weighted using the Teacher Final Sampling Weight variable (TFNLWGT). The 88 SASS TQ supplied replicate weight variables (TREPWT1-TREPWT88) were used in the mean score comparisons to weight the data using a balanced repeating replication procedure as suggested by IES. Data for descriptive analyses were compared within the seven Workforce Development teacher areas and collectively to the population of STEM teachers. T-tests were used to determine whether there were statistically significant differences for Workforce Development teachers collectively when compared to other STEM teachers.

AM Software suggested that probability levels of $p < .016$ were deemed to be statistically significant with the weighted sample. All *n*'s and degrees of freedom were rounded to the nearest 10 to assure anonymity per NCES and IES requirements and data in the tables may not add to the total N initially reported as there may be rounding adjustments. When any estimates did not meet the NCES or IES reporting protocols, they were not reported in the tables and were noted with an asterisk. (Dinkes, Cataldi & Lin-Kelly, 2007; Robers, Kemp, Rathbun, & Morgan, 2014).

RESULTS

Gender, Age, Teaching Experience, and Employment Status

Demographic information concerning teacher gender, age, teaching experience and teaching status is presented in Table 2. In most cases, across the Workforce Development areas, there was a wide range of variability in all the variables investigated. The Workforce Development field of Marketing Education had the most equal representation of male (45.5%) and female (54.5%) teachers. Trade and Industrial Education was the most skewed toward male teachers (96.5%) and Family and Consumer Sciences Education toward female teachers (90.2%).

The mean age for the groups ranged from 37.54 to 48.05 years, with Trade and Industrial Education and Family and Consumer Sciences Education teachers having the highest mean age of approximately 48 years. Agricultural Education teachers had the lowest mean age of approximately 37 years. Mean years of teaching experience ranged from 10.64 years to 16.24 years, with Family and Consumer Sciences Education having the highest experience and Health Science Education the lowest. The full-time status of Workforce Development teachers ranged from 91.8 % to 99.3 % being reported as full-time teachers, with Technology and Engineering Education having the lowest reported percentage and Marketing Education having the highest reported percentage.

Overall, the gender makeup appears to be skewed with direction based primarily on the Workforce Development area selected, with Marketing Education being the exception as the most equally represented. The mean age and mean experience seem to suggest that the teachers are mid-career both in terms of working life expectancy and work experience. In addition, approximately 92% or more Workforce Development teachers are employed as full-time teachers. Compared to science and math teachers, Workforce Development teachers had a higher percentage of male teachers. Workforce Development teachers tended to be older than math and science teachers and possess more teaching experience than science teachers, but they had less experience compared to math teachers. Workforce Development teachers also had the lowest percentage of full-time teachers of the three areas.

Table 2: Workforce Development teachers' gender, mean age, mean teaching experience, and status compared to science and math teachers as reported on the Schools and Staffing Survey Teacher Questionnaire.

	Male	Female	Age	Experience	Full-time Status
Agricultural Education	70.6	29.4	37.54	12.39	96.9
Business & Information Technology Education	30.8	69.2	43.81	13.73	94.5
Family & Consumer Sciences Education	9.8	90.2	48.02	16.24	93.0
Health Science Education	19.6	80.4	46.80	10.64	91.9
Marketing Education	45.5	54.5	42.38	13.05	99.3
Technology & Engineering Education	73.7	26.3	46.51	15.40	91.8
Trade & Industrial Education	96.5	3.5	48.05	14.24	98.0
Workforce Development	47.4	52.6	45.53	13.01	93.4
Science	38.2	61.8	41.63	12.75	97.5
Math	34.8	65.2	41.00	14.54	96.9

Note. Male, Female and Full-time statuses are reported in percentages. Age and Experience are reported in years.

Race and Ethnicity

Teachers' own reports of their race is found in Table 3. This information was collected through the survey and was reported for the purposes of establishing a demographical make-up of Workforce Development teachers. Racial category descriptors are presented verbatim as they appeared on the SASS TQ survey. Participants were allowed to make more than one selection. As noted, data for certain descriptors did not meet IES and NCES reporting standards and were not presented in the tables.

Concerning Hispanic or Latino descent, the valid percentage ranged from a low of 0.3 percent to a high of 6.4 percent with Agricultural Education reporting the lowest percentage and Technology and Engineering Education reporting the highest percentage. With regard to the racial categories teachers self-selected, White was the most prevalent racial category chosen with percentages ranging from a low of 78.4% in Marketing Education to a high of 94 .1% in Agricultural Education. Black or African-American was the next most prevalent category chosen. Percentages ranged from a low of 3.0 percent for Agriculture Education to a high of 14.1% for Marketing Education. The category of American Indian or Alaskan Native ranged from 0.3% for Business & Information Technology Education to approximately 5% for Health Science Education and Trade & Industrial Education. Data for Native Hawaiian or Other Pacific Islanders had sufficiently low unweighted *n*'s that the data did not meet IES reporting standards.

Clearly the two most prevalent self-selected racial categories represented in Workforce Development are White and Black or African-American, and, in most cases, represented over 90% of the variability in the racial categories. Asian, American Indian or Alaskan Native, and Native Hawaiian or Other Pacific Islanders were the least prevalent self-selected racial categories and the least represented in all the Workforce

Table 3: Percentage of Workforce Development teachers' self-reported racial and ethnic categories from the Schools and Staffing Survey Teacher Questionnaire compared to science and math teachers.

	Hispanic	White	Black or African-American	Asian	Native Hawaiian or Other Pacific Islander	American Indian or Alaska Native
Agricultural Education	0.3	94.1	3.0	0.5	*	1.9
Business & Information Technology Education	4.9	85.3	7.8	0.6	*	0.3
Family & Consumer Sciences Education	2.4	84.1	9.3	0.4	*	1.1
Health Science Education	0.9	88.5	5.1	*	*	4.6
Marketing Education	*	78.4	14.1	*	*	1.2
Technology & Engineering Education	6.4	85.1	4.0	1.7	*	*
Trade & Industrial Education	5.3	83.2	5.2	*	*	4.9
Workforce Development	3.9	84.7	6.7	1.2	0.1	1.3
Science	5.6	82.6	6.1	3.3	0.2	0.5
Math	6.5	80.7	7.7	3.8	0.1	0.4

Note. Descriptors were taken directly from the SASS TQ. Percentages may not add to 100 percent because respondents were allowed to choose multiple categories. * Did not meet IES reporting requirements.

Development categories. Collectively speaking, Workforce Development had the highest level of White teachers and the lowest level of Hispanic teachers when these were compared to science and math teachers.

Level of Education

Table 4 shows the highest level of education that was reported for each Workforce Development area. It should be noted that only the highest degree obtained is reported. It does not include the reporting of multiple or similar degrees. The highest percentage group reporting a Bachelor's degrees or less was Trade and Industrial Education (79.6%). It was followed closely by Health Science Education (62.4%) and Agricultural Education (62.0%). The highest percentage reporting a Master's degree or higher was Business and Information Technology Education (55.6%). The highest level of education obtained appeared to be largely determined by the Workforce Development area chosen and the licensure requirements for that area. Collectively, Workforce Development had the least amount of educators with a master's degree or higher when compared to math and science.

Certification Status, Route, and Qualification Status

In Table 5 the certification status, certification route, and qualification status of Workforce Development teachers is shown. The percentage of Workforce Development teachers with regular or standard state certification ranges from a low of 72% for Health Science Education to a high of 94.3% for Marketing Education. The number of Workforce Development teachers being certified through alternative licensure programs ranged from a low of seven percent for Agriculture Education to a high 72.6% for Health Science Education. However, there was a large degree of variability in the certification routes for Workforce Development teachers depending upon the content area. Collectively, Workforce Development teachers had the lowest level of regular or standard state certification and the highest level of alternative certification when compared to science and math teachers.

Table 4: Percentage of Workforce Development teachers' highest degree obtained compared to science and math teachers on the Schools and Staffing Survey Teacher Questionnaire.

	Bachelors or less	Masters	Educational Specialist	Doctorate
Agricultural Education Business & Information	62.0	28.1	7.3	*
Technology Education	36.1	55.6	7.4	*
Family & Consumer Sciences Education	53.8	41.2	4.3	*
Health Science Education	62.4	28.7	3.1	*
Marketing Education	37.3	43.9	9.5	9.3
Technology & Engineering Education	52.6	41.5	4.9	*
Trade & Industrial Education	79.6	18.4	*	*
Workforce Development	51.7	41.3	5.5	1.3
Science	41.3	49.4	6.5	2.8
Math	43.2	50.1	5.5	1.6

Note. * Did not meet IES reporting requirements.

Table 5: Percentage of Workforce Development teachers' certification, career path entry, and qualification status compared to science and math teachers as reported on the Schools and Staffing Survey Teacher Questionnaire.

	Regular or standard state certificate	Alternative certification program	Traditional certification program
Agricultural Education	92.6	7.0	93.0
Business & Information Technology Education	88.5	24.8	75.2
Family & Consumer Sciences Education	88.4	19.6	80.4
Health Science Education	72.0	72.6	27.4
Marketing Education	94.3	43.1	56.9
Technology & Engineering Education	86.1	21.6	78.4
Trade & Industrial Education	81.9	38.6	61.4
Workforce Development	86.5	26.0	74.0
Science	91.2	25.3	74.7
Math	89.8	17.8	82.2

Caseload

Regarding students with categorized disabilities, Technology and Engineering Education reported the highest mean number of students with categorized disabilities with approximately 19 students on their caseload. Health and Science Education reported the lowest number of students with categorized disabilities with a mean caseload of approximately seven students. The mean number of student with LEP served by Workforce Development teachers ranged from a low of two for Marketing Education to a high of nine for Trade and Industrial Education. The mean service load of Workforce Development teachers, which was the combination of students with categorical disabilities and LEP, ranged from a low of nine for Health and Science Education to a high of 27 for Technology and Engineering Education. Table 6 shows the caseloads for all areas.

With regard to student caseload, there is a large amount of variability within Workforce Development across the total number of students taught, the number of students with disabilities taught, and number of LEP students taught and the combined service load. Some areas have a much higher overall caseload of students, while others have considerably more students with categorized disabilities and LEP. Collectively, Workforce Development had a higher overall special population load than science or math teachers.

Statistically Significant Differences in Caseloads

With regard to differences across measures of caseload, there was a wide range of variability within the seven areas of Workforce Development and when they were collectively compared to science and math teachers. Within

Table 6: Workforce Development teachers' mean caseloads compared to science and math teachers on the as reported on the Schools and Staffing Survey Teacher Questionnaire.

	Categorical	LEP	Service Load
Agricultural Education	13.74 (0.88)	2.84 (0.90)	16.58 (1.26)
Business & Information Technology Education	14.05 (1.23)	14.05 (1.23)	14.05 (1.23)
Family & Consumer Sciences Education	16.03 (1.09)	4.77 (0.59)	20.80 (1.45)
Health Science Education	7.24 (1.34)	2.25 (0.56)	9.49 (1.68)
Marketing Education	10.86 (1.94)	2.31 (0.85)	13.17 (2.25)
Technology & Engineering Education	19.39 (1.80)	7.16 (1.14)	26.54 (2.14)
Trade & Industrial Education	15.01 (3.12)	8.99 (3.49)	24.00 (5.95)
Workforce Development	15.78 (0.72)	5.28 (0.46)	20.93 (0.93)
Science	13.35 (0.52)	7.10 (0.52)	20.50 (0.82)
Math	9.84 (0.32)	5.58 (0.38)	15.81 (0.57)

Note. Categorical are students with disabilities with individualized education programs. LEP is limited English proficiency. Service Load is the sum of Categorical and LEP. Standard error is in parentheses.

Workforce Development, there was a large degree of variability within each group. Some areas of Workforce Development teachers had more students with categorical, LEP, and at-risk than others. Collectively, Workforce Development had a statically significant higher load of students with categorical disabilities than math and science, a statically significantly lower load of students with LEP than Science, and a statistically significantly higher number of students at-risk than math.

Categorical Service Load

The categorical service load is the number of students taught with IEPs. In terms of absolute numbers, Workforce Development teachers had the highest mean number of students with categorical disabilities and math teachers had the lowest. When compared, Workforce Development teachers (M = 21.06, SD =18.53) had a statistically significantly higher number of students with categorized disabilities than did math teachers (M = 9.84, SD =10.57); $t(90)$ = 7.52, p = 0 and a statically significantly higher number than did science teachers (M = 13.41, SD =14.26); $t(90)$ = 2.81, $p < .01$. Science teachers (M = 13.41, SD =14.26) also had a statistically significantly higher number of students with categorized disabilities than did math teachers (M = 9.84, SD =10.57); $t(90)$ = 5.41, p = 0.

LEP Service Load

LEP service load is the number of students with limited English proficiency taught. Science teachers had the highest number of students while LEP and Workforce Development teachers had the lowest. Science teachers (M = 7.10, SD =15.89) had statically significantly more students with LEP than did Workforce Development teachers (M = 5.28, SD =14.17); $t(90)$ = -2.70, $p < .01$ but with no statistically significant differences with math teachers (M = 5.98, SD =12.90); $t(90)$ = 1.77, $p < .08$. There was also no statistically significant difference found on the number of students with LEP between Workforce Development teachers (M = 5.28, SD =14.17) and math teachers (M = 5.98, SD =12.90); $t(90)$ = -1.23, p = .22.

At-risk Service Load

At-risk service load was the sum of students with categorized disabilities and students with LEP. Workforce Development teachers had the highest number of students labeled at-risk and math teachers had the lowest. Collectively, Workforce Development teachers had a statically significantly higher service load of students labeled at-risk than did math teachers. There was a statistically significant difference in the scores for Workforce Development teachers (M = 21.6, SD = 23.9) and math teachers (M = 15.81, SD = 17.83); $t(90)$ = 4.91, p = 0. There was also a statistically significant difference for science teachers (M = 20.50, SD = 23.94) and math teachers (M = 15.81, SD = 17.83); $t(90)$ = 4.34, p = 0. There were no statistically significant differences in service load between Workforce Development teachers (M = 21.6, SD = 23.9) and science teachers (M = 20.50, SD = 23.94); $t(90)$ = 0.45, p = 0.66. It appears that of the three areas, Workforce Development teachers and science teachers have a comparable caseload of students labeled at-risk and that both have a statistically significantly higher caseload of at-risk students than did math teachers.

CONCLUSION

Because Workforce Development teachers represent such a wide range of content areas, the researchers suspected that there might be a high degree of variability within the seven Workforce Development areas examined. This was confirmed. The characteristics of Workforce Development teachers varied across the fields represented and the variables analyzed. Some areas tended to have more teacher diversity related to race and gender. Others had more teaching experience and percentages of Master's degrees. Within Workforce Development, the caseloads of students varied greatly and Workforce Development was shown to be a diverse field regarding teachers' characteristics and credentials.

Collectively speaking, Workforce Development was similar to the STEM fields of math and science pertaining to teachers' race. However, Workforce Development had a higher ratio of females to males than did teachers of math and science. Workforce Development teachers were older and more experienced than math and science teachers. They did, however, have a lower percentage of teachers with Master's degrees or higher and were slightly less likely to be fully certified than their math and science peers. A higher percentage of Workforce Development teachers also entered the teaching field through alternative certification programs than did either math or science teachers. Both Workforce Development and science teachers had statically significantly higher IEP and LEP caseloads than did math teachers.

Maintaining the ability to access and compile teacher characteristic and student population

information is important as future credentialing and service initiatives are contingent upon such facts. In structuring future programming for teacher learning, Workforce Development curricula, student transition opportunities, and other student and/or teacher initiatives, actual needs of the population of interest can be factored. For example, if a professional development workshop is offered to a group of Technology and Engineering Educators, the prevalent student subgroups of LEP and students with categorical disabilities may warrant focus.

Characteristic data not only enhances teacher development and professional continuation programming, but it also builds capacity for informed and purposeful evidence-based decision making. The possibilities are quite abundant: enrollment patterns and trajectories can be forecasted to allocate adequate resource and space, population characteristics can be tracked to promote further equity in access to courses, and so forth. Aside from the possibilities of projecting and structuring timely support mechanisms, characteristic information enables the identification of current deficiencies, surplus, and need. These considerations span far beyond the local and regional levels, as Workforce Development teachers now prepare individuals for a global economy and workforce where the implications of successes and failures of student preparation are prospectively global. The future workforce plays an immensely important part in driving innovation and economic growth (Committee on Prospering in the Global Economy of the 21st Century, 2007). "As economies have developed in wealth and complexity since the industrial revolution, [skilled] workers have grown in relative importance as a share of the labor market, and [associated] skills are widely needed across a … variety of blue-collar, craft, and profes¬sional occupations (Rothwell, 2014, p. 2)." Accessible Workforce Development programming, supported by high-caliber professional educators, can contribute not only to a healthy and sustainable economy (Gabe, 2009) but also to high satisfaction, reward, and quality of life, especially for students with categorical disabilities and LEP.

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