North Dakota Teacher Shortage

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Personal Background

- Family moved to Bismarck 2 years ago
- Assistant Principal and English teacher at Shiloh Christian (Bismarck, ND)
- Bachelor's degree in Social Studies Education (NDSU)
- University of Mary Masters Program

Acknowledgments

- Dr. Rod Jonas
- Dr. Rebecca Pitkin
- Dr. Jeff Lind
- Dr. Steven Johnson and Mr. ElRoy Burkle
- Dr. Larry Bice
- My Family

Purpose of the Study

- The purpose of this quantitative study was to understand the teacher shortage situation in the state of North Dakota.

National Shortage

- The ability to successfully recruit and retain teachers is an issue throughout the United States (Colorado Department of Higher Education, 2017)
- Significant drop in students enrolled in teacher preparation programs from 2008-2009 (719,081) to 2016-2017 (444,224) (United States Department of Education, 2019)
- Lack of autonomy or little room for advancement (Goldring, Taie & Riddles, 2014).

National Shortage

- Teaching has a lower turnover rate compared to other professions (Aragon, 2018)
- In 2011, 300,000 graduates but only 100,000 were hired to teach (Cowan, Goldharbor, Hayes & Theobald, 2015)
- Percentage of schools that reported difficulty filling a teaching position has dropped in the last two decades (Malkus, Hoyer & Sparks, 2015)

National Shortage - Geographical

- Rural communities tend to face larger issues with recruitment and retention (Aragon, 2016)
- Limited local teaching supply, lack of rigorous training and certification options, and geographic and social isolation (Aragon, 2016).
- Smaller school sizes, lower salaries, and pressure to teach multiple subjects (Beesley, Atwill, Blair & Barley, 2008).

Subject Area Shortages (National)

- Nearly 50% of emergency permits and nonconventional licenses are in STEM and special education (Dee & Goldharbor, 2017)
- Standardized salary schedules (Cowan, Goldharbor, Hayes & Theobald, 2016)
- Schools lack the flexibility that other industries have to target candidates in hard to find areas (Cowan, Goldharbor, Hayes & Theobald, 2016)

North Dakota Teacher Shortage

- In North Dakota, the Department of Public Instruction in conjunction with the Education Standards and Practices Board is responsible for declaring which subject areas meet the threshold for being declared a critical shortage area.
- Three or more positions in the state that are either A) unfilled or B) filled by a teacher who is certified by provisional, temporary, or emergency certification (North Dakota Standards and Practices Board, 2019).

North Dakota Teacher Shortage

- Every subject area was deemed to be a critical shortage area (North Dakota Education Standards and Practices Board, 2019)
- According to Dr. Steven Johnson, superintendent of schools in Lisbon, North Dakota, rural school districts that are further away from teacher prep locations tend the most difficulty filling positions.

North Dakota Teacher Preparation Institutions

- Twelve teacher preparation Institutions. Eight of those institutions produced at least eight graduates.
- Graduates are heavily concentrated to the eastern quarter of the state -- only 258 of the 701 program completers were from institutions located west of Jamestown (United States Department of Education, 2019)

North Dakota Teacher Preparation Institutions

- During the 2018-2019 school year, there were 312 FTE physical education positions
- From 2013 to 2016, there were 311 students that graduated with a physical education degree from North Dakota Institutions (North Dakota Educations Standards and Practices Board, 2019)
- From 2006 to 2016 there were 776 (2.5x) and from 1994 to 2016 there were 1647 (5.3x).

North Dakota Teacher Preparation Institutions

- During the 2018-2019 school year, there were 483 FTE mathematics positions
- From 2013 to 2016, there were 152 students that graduated with a mathematics education degree from North Dakota Institutions (North Dakota Educations Standards and Practices Board, 2019)
- From 2006 to 2016 there were 384 (less than 80%) and from 1994 to 2016 there were 677 (1.4x)

Potential Solutions

- Dr. Larry Bice, administrative consultant for practitioner preparation for the Iowa Department of Education, has been spearheading an effort to start including a geographical component in Iowa's teacher shortage methodology.
- Dr. Steven Johnson and Lisbon Public Schools have entered into an agreement with Valley City State University (ND)

Study Design

- Online questionnaire (Formsite)
- Stratified sampling technique
- North Dakota Small Organized Schools

Study Overview

Group A: School districts located within a community whose population is greater than 20,000 people. The school district must also be located within ten miles of a teacher preparation institution.

Group B: School districts that do not qualify for Group A but are located within a community whose population is greater than 10,000 people. School districts would also qualify for Group B if they are located within 20 miles of a Group A school district.

Group C: School districts that do not qualify for Group A or Group B.

Study Overview

Participation: 54 of the 244 public school districts in North Dakota participated in the survey

Group A: Five schools responded (seven possible)

Group B: Nine schools responded (21 possible)

Group C: 40 schools responded (216 possible)

Limitations

- Recruiting techniques might vary in different districts
- Some districts may have shorter time windows for postings
- Different levels of record keeping across districts
- Group or pool postings instead of one-for-one postings

Limitations

- Different techniques for job postings
- Different time windows (immediate interviews vs. set time frame)
- Difference in record keeping (less meticulous records)
- Group posting vs. one for one posting

Hypotheses

- *Hypothesis 1*: School districts that are located near large population centers and teacher preparation locations will receive more applicants per open position than school districts that are not.
- *Hypothesis 2:* Schools districts across the state will have more difficulty filling positions in certain subject areas than other areas.

Disparity between Groups

- Average number of applicants per open position:
  - Group A: 10.73
  - Group B: 4.39
  - Group C: 1.92
- Group A received 2.4x more than Group B
- Group A received 5.6x more than Group C
- Group B received 2.3x more than Group C

Unsuccessful Applications

- Average number of unsuccessful applications (per subject area):
  - Group 1: 48.1
  - Group 2: 4.65
  - Group 3: 1.37
- Group A received 10.3x more than Group B
- Group B received 3.4x more than Group C
- Group A received 35.1x more than Group C

Subject Area Specific Data

- Most applicants per open position:
  - Group A - Social Studies (42.33) and Phys. Ed (21.96)
  - Group B - Social Studies (15) and Phys. Ed (5)
  - Group C - Social Studies (3.5) and Phys. Ed (3.1)
- Fewest applicants per open position:
  - Group A - Ag. (3.33), SPED (3.57), and FACS (4.22)
  - Group B - Ag. (.5), FACS (1), and SPED (1.28)
  - Group C - Art (.33), SPED (.85), and ESL (1)

Comparative Data

- Group A averaged over six applicants per open position in 12 subject areas.
- Group B averaged over five applicants per open position in two subject areas.
- Group C averaged over 3.5 applicants per open position in zero subject areas.

Comparative Data

- Fourteen school districts reported a shortfall in applicants in at least one subject area Group C (12) and Group B (2)
- Twenty-two total shortfalls -- Group C (19) and Group B (3)
- Seven of the shortfalls were Special Education -- Group C (6) and Group B (1)
- Multiple schools in Group C reported shortfall in English, Math, Art, and Business/Technology/CTE

Comparative Data (English)

- Group A: Five schools combined for 265 unsuccessful English applications -- 23 total openings. Average of 53 unsuccessful applications per school district.
- Group C: Ten schools combined to receive a total of 17 applications -- 12 total openings. (Three unfilled positions)
- An individual Group A school rejected (on average) over 3x as many applications as all ten Group C schools recieved.

Recommendations (Policy Makers)

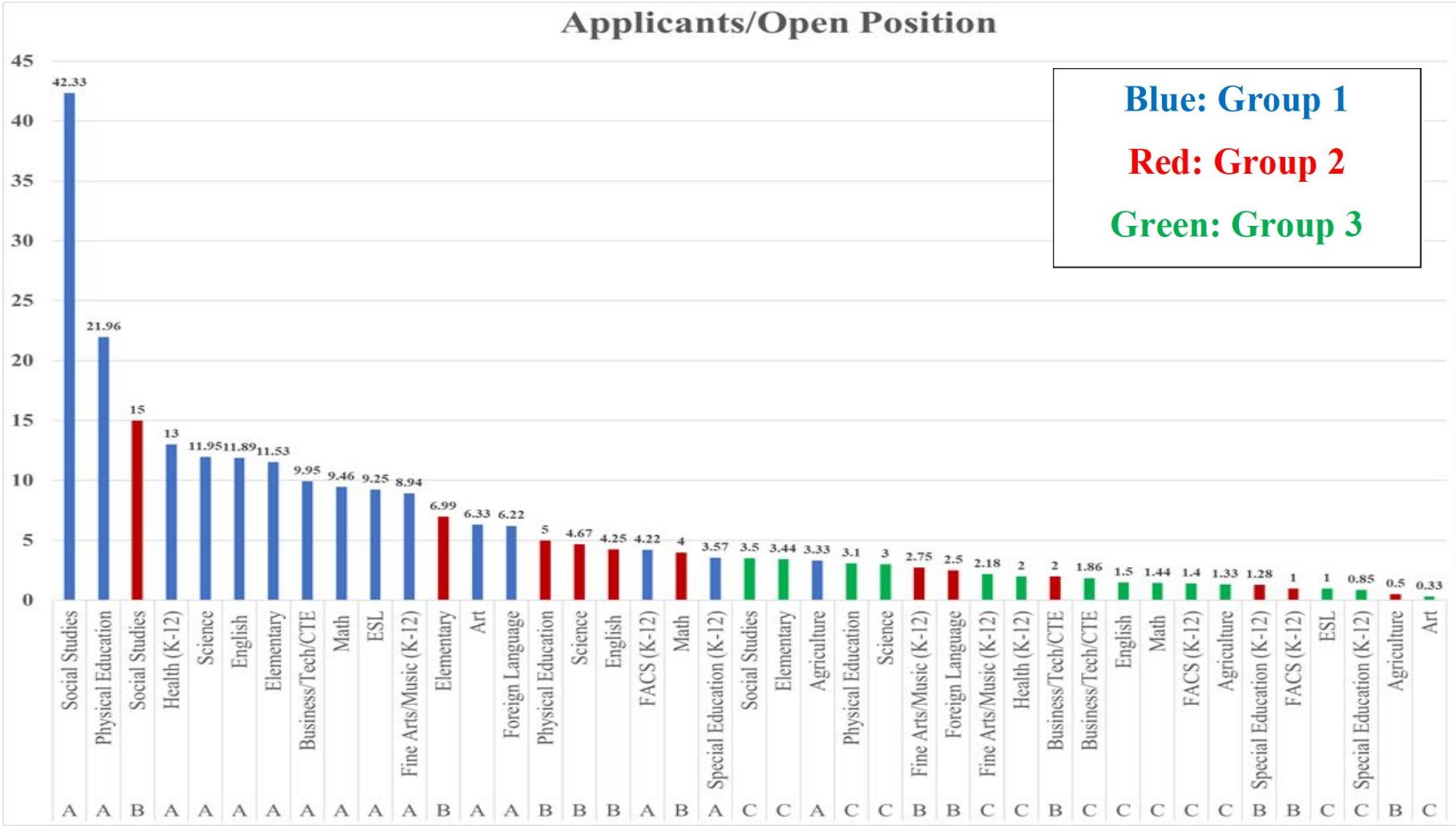
- Differentiate the tiers of shortage classifications
- Add a geographical component to the shortage classification methodology
- Mandate the use of a centralized job posting and applicant curation platform

Recommendations (Teacher Preparation Institutions)

- Utilize the information in this study to better inform students of the job prospects in different major areas.

Recommendations (Further Study)

- Why are applicants so reluctant to apply for positions in Group C school districts?
- Why are certain school rural districts more successful at recruiting and filling open positions?


Applicants/Open Position
Blue: Group 1
Red: Group 2
Green: Group 3
45
40
35
30
25
20
15
10
5
0
42.33
21.96
15
13
11.95
11.89
11.53
9.95
9.46
9.25
8.94
6.99
6.33
6.22
5
4.67
4.25
4.22
4
3.57
3.5
3.44
3.33
3.1
3
2.75
2.5
2.18
2
2
1.86
1.5
1.44
1.4
1.33
1.28
1
1
0.85
0.5
0.33
Social Studies A
Physical Education A
Social Studies B
Health (K-12) A
Science A
English A
Elementary A
Business/Tech/CTE A
Math A
ESL A
Fine Arts/Music (K-12) A
Elementary B
Art A
Foreign Language A
Physical Education B
Science B
English B
FACS (K-12) A
Math B
Special Education (K-12) A
Social Studies C
Elementary C
Agriculture A
Physical Education C
Science C
Fine Arts/Music (K-12) B
Foreign Language B
Fine Arts/Music (K-12) C
Health (K-12) C
Business/Tech/CTE B
Business/Tech/CTE C
English C
Math C
FACS (K-12) C
Agriculture C
Special Education (K-12) B
FACS (K-12) B
ESL C
Special Education (K-12) C
Agriculture B
Art C

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