



Features of Teacher Preparation and Beginning Teacher Retention

Motivation

Modal years of teacher experience is 1 and over 40% of teachers leave the classroom within the first 5 years

Teachers with less experience tend to be less effective

Turnover is highest in high poverty, low-performing schools

Turnover negatively impacts school climate and instructional programs

Hiring new teachers is *expensive!*

Research Questions:

1. What are the attrition rates for middle and high school mathematics teachers prepared in North Carolina public universities in their first five years of teaching?
2. How do the structural features of the teacher preparation programs they attended predict this attrition?

Method

Logistic and Ordinal logistic regression:

$$\text{Stay}_t = \beta_0 + \pi_1 S_{icjst} + \pi_2 \text{Program}_j + \pi_3 C_{jsct} + \pi_4 SCH_{st} + \varepsilon_{icjst}$$

Sample

788 middle grades and secondary math teachers certified in math between 2008 and 2012 in one of 15 UNC system IHEs

Conclusions

1. Different features predict retention than predict achievement gains
2. Increased program requirements associated with increased retention
3. Different features matter for short term vs longer term retention

Results: Question 1: Retention across years

Univ.	One Year	Two Years	Three Years	Four Years	Five + Years
1	7.5%	3.0%	6.0%	14.9%	68.7%
2	3.4%	5.1%	5.1%	8.5%	78.0%
3	2.7%	10.7%	4.0%	10.7%	72.0%
4	2.8%	2.8%	7.0%	7.0%	80.3%
5	6.3%	0	6.3%	25.0%	62.5%
6	8.3%	0	8.3%	8.3%	75.0%
7	2.8%	2.8%	13.9%	5.6%	75.0%
8	0	5.9%	0	5.9%	88.2%
Total	3.9%	4.7%	6.0%	10.1%	75.4%

Results: Question 2: Odds of retention

	Years 1 to 2	Years 1 to 5
Subject Matter	1.17 (4.75)	1.10 (5.55)
Pedagogy	1.14 (5.10)	1.00 (0.10)
Foundations	1.44 (3.73)	1.38 (6.77)
“Other”	0.78 (0.67)	0.29 (4.35)
Early Field Hours- Q2	1.79 (1.20)	0.12 (4.96)
Early Field Hours- Q3	3.81 (3.29)	0.30 (4.28)
Early Field Hours- Q4	4.72 (3.61)	0.25 (4.56)
Wks Full Time Teaching	0.92 (1.74)	1.02 (0.85)
Minimum Observations	0.68 (1.47)	0.97 (0.30)
Seminar	3.35 (4.27)	1.48 (2.78)
McKelvey & Zavoina's R ²	0.321	0.332
N	195,919	124,477

Predicted Values

- 2 white female teachers with secondary bachelors certification
- Teacher A: 6 hours foundations, 30 subject matter, Q2 early field hours, no seminar
- Teacher B: 9 hours foundations, 42 subject matter, Q3 early field hours, seminar

Probability of	Retention to Year 2	Retention to Year 5
Teacher A	0.94	0.35
Teacher B	0.99	0.93

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