

What is the Demand for Recent Mathematics & Science Education Ph.D. Graduates?

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This study was a part of a larger research project:

Developing Leadership for Mathematics and Science Education

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Three-Part Research Project

- 1. How Did Currently Recognized Leaders Become Leaders?**
 - Interviews with >60 local, regional and national leaders
- 2. How Do Current Doctoral Programs Serve as Preparation for Leaders?**
 - Study of 20 different mathematics and science education doctoral programs
- 3. Are Supply of & Demand for Doctoral Graduates Matched?**
 - Study of job postings & hiring in 2001-02

Investigation of Job Postings

(September 2001 - August 2002)

Sources

- *Chronicle of Higher Education*
- *Chronicle website*
- NARST list serve
- AETS list serve
- Paper copies mailed to members

Number of Job Postings

600 job postings were found for which a recent mathematics or science education Ph.D. graduate would be eligible

- 245 were in mathematics education**
- 168 were in science education**
- 116 were in elementary education with an emphasis in math and/or science education**
- 60 were listed as science education and/or mathematics education**
- 11 were administrative**

Data from the Job Postings

78% of the 600 postings were listed as tenure-track

Mathematics	201/245	82%
Science	131/168	78%
Elementary	94/116	81%
Science/Mathematics	40/60	67%
Administrative	3/11	27%

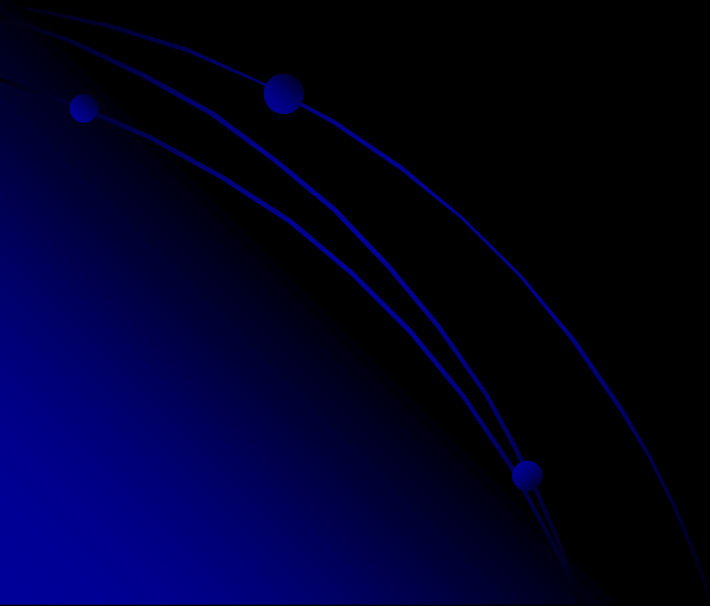
Data from the Job Postings

32% of the 600 postings were housed in a college or department of natural or applied sciences or mathematics (STEM Disciplines)

Mathematics	126/245	51%
Science	62/168	37%
Elementary	1/116	1%
Science/Mathematics	1/60	2%
Administrative	3/11	27%

Carnegie Classification

Research Universities	34%
Masters Level Universities	46%
Baccalaureate Colleges	16%
Other / No Classification	4%



Many of the teaching, research, and service responsibilities sought for in the position announcements were not too remarkable.

However, 364 of the 600 postings listed other responsibilities. These included:

Supervision of student teachers 233


Advising students 160

Using technology 112

Writing grant proposals 90

In-service work with schools 59

Top 5 Required Qualifications

- 1. Ph.D. in mathematics education or science education**
 - 2. K-12 teaching experience**
 - 3. Research project experience**
 - 4. Demonstrated excellence in teaching**
 - 5. Experience/expertise with technology**
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Survey Responses

E-mail surveys were sent to a randomly selected sample of the 600 hiring committee chairpersons. 123 surveys were sent, and 56 were returned (46% response rate)

Was the position filled?

Yes	46	82%
No	10	18%

Survey Responses

The number of applicants for the positions ranged from 2 – 60, with a mean of 16.

So it seems that all is well given that many of the positions are filled, and pools have a reasonable number of applicants. However,...

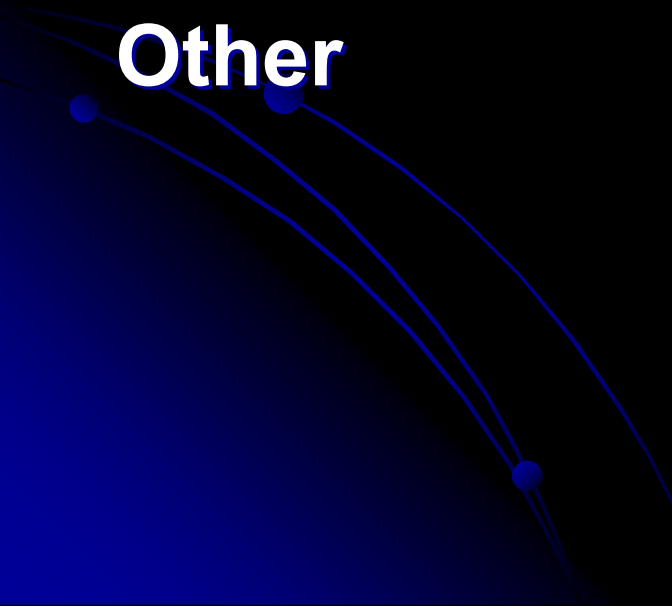
How Well Do They Match?

Match between the required degree listed in the job posting and the degree held by the hired individual (46 hires)

Complete Match	28	61%
Partial Match	11	24%
Poor Match	5	11%
No Response	2	4%

Does the hired individual have a Ph.D.? (46 hires)

No Ph.D. at the time of hire	15	33%
Ph.D. within the past year	10	22%
Ph.D. more than 1 year ago	19	41%
Other	2	4%



How satisfied was the hiring committee chairperson with the qualifications of the top 5 applicants?

Very satisfied	11	20%
Somewhat satisfied	15	27%
Less than somewhat satisfied	22	39%
No response / Other	8	14%

Continuing Research

- **Job postings in science and mathematics education were gathered during the 2004-05 academic year**
- **E-mail survey will be sent during Fall 2006 to randomly selected hiring committee chairpersons**