

Summary of *An Investigation of the Scholarly Activity of Recent Graduates of Doctoral Programs in Mathematics Education* by Bob Glasgow

The recent National Conference on Doctoral Programs in Mathematics Education elicited conversations amongst university mathematics educators concerning the future direction of doctoral programs. The tenor of these conversations was effected by data from a survey of mathematics education doctoral programs in the United States (Reys, et al., 2001). This survey indicated that although new programs were emerging and the number of graduates was increasing, the field was only beginning to experience a critical shortage in mathematics education doctorates. As mathematics educators at the conference discussed this shortage, the need for more collaboration amongst programs was proposed. The discussions of this collaborative process led many to believe that a consensus should be reached as to what constitutes a quality doctoral program in mathematics education. Although, a wide range of viewpoints on this issue arose at the conference, a common related question was verbalized by many participants: Who are our graduates and what are they doing? This study was designed to provide information related to that question. In particular, this study investigated the background of recent graduates of doctoral programs in mathematics education and sought to describe the nature and extent of their scholarly activity.

Graduates of doctoral programs in mathematics education from 1993 to 1995 were chosen to provide a picture of recent graduates who had been in the work force for enough years to have developed significant scholarly activity. This study identified 361 graduates over those three years and was unable to locate another 81 graduates who could possibly have been graduates of doctoral programs in mathematics education. The 361 graduates were sent a survey and 200 responded. Twelve of these 200 graduates were chosen for follow-up interviews.

The graduates in this study averaged 18 years between the time they earned their bachelor's degree and when they earned their doctorate. This means that on average they were probably around 40 years old when earning their doctorate. Sixty-five percent of the graduates were female. The graduates were from 77 different institutions with doctoral programs in mathematics education. About 80% of the graduates were employed at universities or colleges and about two-thirds of these

were at institutions that did not have a doctoral program in mathematics education. The remaining 20% of the graduates were employed at K-12 schools, community or junior colleges, commercial companies, or governmental agencies. Eighty-four percent of the graduates indicated they had some K-12 teaching experience. One-third of the graduates were employed at their current institution prior to earning their doctorate. Graduates often indicated they took their current position because of location and because of the focus on teaching or research at the institution.

The graduates averaged teaching 9.5 hours per week in their current employment position, with those employed at Research or Doctoral level institutions teaching significantly less than those at Master's and Baccalaureate institutions. Graduates reported spending an average of 43% of their time on teaching duties, about 12% on administrative and service duties, and about 7% of their time conducting research and writing for publication. Graduates employed at Research and Doctoral institutions indicated that although teaching was "officially" a major part of their responsibilities, and they considered it very important, the reality of tenure and promotion focused dictated that they focus on research and publications. This created a struggle for some graduates.

Graduates listed an average of 9 publications on their vita. On average, 2 of these 9 publications were prior to the graduates earning their doctorate. Over 20% of the graduates had no publications. Graduates at Research institutions averaged 21 publications while those at Master's institutions averaged 6. Twenty-five percent of the publications listed were in conference proceedings and 22% were in mathematics education journals, with the NCTM journals being the most common. Graduates reported doing an average of 19 presentations with the most common being a presentation at a local professional meeting. Graduates reported having been involved in an average of 3 funded projects during their career that were predominantly funded by university grants, National Science Foundation grants, and Eisenhower grants.

The graduates in this study indicated that the most valuable experiences in their doctoral programs were when they worked closely with faculty on a variety of projects. Graduates valued this mentoring process and indicated it prepared them the most for their employment position. Other valued experiences included working through the dissertation process and being immersed in the literature of mathematics education.

Graduates indicated that they would have appreciated more experiences where they worked on projects, from start to finish, with faculty in their doctoral program. Graduates mentioned the need for more experiences with the grant writing process.

This study provides a snapshot in time of where recent graduates of doctoral programs in mathematics education are and what they are doing. The process of evaluating the activities, attitudes, and needs of graduates is essential to uphold and to improve the quality of doctoral programs in mathematics education through the coming era of change.