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Are Graduate Students Taking More Time for Degrees?

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A report from the National Science Foundation (Coyle and Thurgood, 1989) claims that graduate students are *taking* more time to get their masters and doctoral degrees. In the 1930s-50s, it took ≈ 1 year for a masters degree in horticulture, and 2 to 3 more years for a doctorate (Cattell, 1953). Graduate students then were for the most part single, living in dormitories or rooms, lived simply, were putting themselves through school, or a few were on assistantships, scholarships, or fellowships, as today. Students seemed to hurry through as a standard procedure to get their degrees, get out, start a career with better pay, get married, and start a family. Of course, things are different today, which may account for the longer time to complete degrees. But are students really taking more time than necessary? Are some advisors not "pushing" their students or are they requiring more course work? Are students living more comfortably with mates also drawing income? In 1964 at the Boulder, Colo., ASHS Annual Meeting, my colleague from Maryland, Art Thompson, asked a question at a graduate training session led by Wes Judkins of Virginia Polytechnic Inst. and State Univ.: "How do you get a graduate student to put in a 40-h week?" The trend apparently had started. In the 1950s to early 60s, we had some 35 graduate students in horticulture at Rutgers Univ. One could go to the horticultural building in the evenings and on weekends and find most of the students toiling away in laboratories and offices, trying to finish their degrees as soon as possible. By the 1970s, this "beehive" had changed to where one could find few if any students in the building in the evenings or on weekends. Faculty commented that students seemed to be spending too much time on their degrees, particularly the masters. Could it be a general work/recreation trend of the times?

At the Univ. of Florida, College of Agriculture, data from the graduate school (Martin, 1990) show it takes an average of 8.5 semesters (almost 3 years) for a masters degree and 16.2 semesters (over 5 years) for a doctorate. This is about average for all colleges in the university. In the Fruit Crops

Dept., funds are curtailed after 2 years for a masters and after 3 years (above a masters) for the doctorate, with minor exceptions. But much can depend on the student and the project. If it is an ongoing research project, much of the ground work has been done and a phase of the project can be completed sooner. A new project, particularly under field conditions, may take almost a year to get started with 2 to 3 more years to collect necessary data for a doctorate. The time may be shortened if an advisor adheres to a tight work schedule and if the student is particularly industrious.

The following excerpts from the National Science Foundation, Summary Report of 1987 (Coyle and Thurgood, 1989), briefed by J. Wen-Fu Shih (1989), Univ. of Florida Graduate School, may be of interest.

A recent decline in (a) the *number* of American doctoral recipients in the sciences and engineering in the United States has commanded national attention and has led to studies and reviews. Lately, the related issue of (b) the *length of time* taken to complete graduate degrees also has raised administrative concern and alarm.

According to a report from the National Science Foundation (Coyle and Thurgood, 1989), graduate students are taking longer than ever to earn doctorates in United States universities. Since 1958, the NRC has conducted a survey of graduates as they completed all requirements for doctoral degrees. The 1987 survey responses were obtained from 93 percent

of the 32,278 recipients of doctorates in the 1987 fiscal year.

In the NRC report, two time measurements are defined. The first, total time-to-degree (TTD), refers to the number of years elapsed between earning the baccalaureate and earning the doctorate; the second, registered time-to-degree (RTD), is defined as the time students are enrolled in a graduate school.

The time spent in completing a doctoral degree in the United States has been rising for nearly 20 years, according to the report. Overall, RTD rose from a median of 5.4 years in 1967 to 6.9 years in 1987, an all-time high (Fig. 1). TTD rose from a median of 8 years in 1967 to 10.4 years in 1987.

In the late 1940s and all of the 1950s, tens of thousands of students were studying under the GI Bill. Time imposed by that law could have been a factor in the faster progress.

The growth of RTD means that students are spending more time enrolled in the graduate school. The report suggested three reasons: (1) Students are extending their study time, either because of curricular changes or dissertation demands; (2) students are extending their nonstudy activities, such as teaching while on campus; or (3) students are increasingly enrolled on a part-time rather than a full-time basis. When TTD is greater than RTD, it means that students are also increasing their time

Fig. 1. Median years to degree for doctoral recipients in U.S. universities, 1967-87 (Coyle and Thurgood, 1989).

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out of graduate school before the completion of their program.

The survey data show that time-to-degree was clearly related to students' major fields. Completion times were shorter in the natural sciences and engineering, about average in the social sciences, and longer in the non-sciences.

Financial support source also was found to be an important factor. The students supported by research assistantships took the shortest RTD years, 6.1, and 7.7 TTD years. While students awarded fellowships also completed the program in a shorter period, they did take longer in TTD years. Doctoral recipients who primarily supported themselves not only had the longest RTDs but the longest TTDs as well. These self-supported graduates took 1.6 years longer than the average 6.9 years and 15.4 TTD years, five years longer than average, to complete their degrees.

The assumption that time-to-degree might be associated with recipients' postgraduation employment status was not supported by the survey data. However, differences in time-to-de-

gree were found among racial/ethnic groups and between men and women.

Overall, men completed their degrees more quickly than women in 1987. Men's median registered time to completion was 6.6 years; women's was 7.3 years. But the discrepancies in RTDs disappeared when the major field was held constant. The only exception was in the humanities, where women continued to be enrolled half a year longer than men. In terms of total time-to-degree, men completed their degrees 2.5 years sooner than women. Again, when the major field was held constant, the gap between men's and women's completion time narrowed considerably in several fields, especially in the physical sciences and social sciences. In engineering, the gap reversed direction, and men took almost one year longer than women in TTD.

The 1987 survey data show that non-U.S. citizens completed their doctoral degrees much more quickly than U.S. citizens for all fields combined.

At the graduate school of the Univ. of Florida (Martin, 1990), overall, it takes »18

terms, i.e., ≤7 years, for doctoral students to complete the programs-about the same as the national average of 6.9 years. This figure remained relatively stable for the years 1986-89.

It requires about three times as long to complete degrees today as it did in the 1930s, when I studied. There are probably many good reasons for this shift. But some concern and discussion could be worthwhile to see if degree-time can be shortened. This would put students into their careers sooner and give prospective graduate students a better chance at the limited sources of financial help. And we could meet professional and industry needs better for trained graduates with advanced degrees.

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