Characteristics of structured doctoral programmes in medicine

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Introduction

The E-Prom project considers the impact of the doctoral phase on young researchers’ career in life sciences. One focus lies on structured (vs. individual) doctoral education in medicine and it’s possible benefits for engaging medical doctoral candidates in research. Structured doctoral programmes define themselves by having a more binding and more intense supervision, a stronger imparting of scientific competencies and more profound administrative support for doctoral students than individual doctoral education.

Aim

We aim to identify quality characteristics of the doctoral phase in life sciences and investigate the specifics of the medical doctorate with the distinction between structured and individual doctoral education. Therefore, we follow the career paths of recently graduated doctoral students. We collect data about their doctoral education, their socio-demographic background and several predispositions, e.g. motivation, academic self-efficacy, appeal of an academic career, career goals and family planning.

Methods

We pursue a mixed method design, divided in three partial studies:

Study 1
- Multi-cohort panel study, data collected via online survey in cooperation with 14 German universities
- Target group: doctoral graduates in life sciences (first cohort graduated Apr. 2013 – Apr. 2014)

Study 2
- Interview study with selected participants of study 1

Study 3
- Document analysis of doctoral programmes and expert interviews with persons responsible of doctoral programmes

Results

Sub-categories seen in the figure are actually more branched in our research than displayed. Also there are more sub-categories than shown. Due to clarity of the figure, several rarely mentioned or too complex sub-categories are omitted.

By now, we have only first descriptive results, seen in figure. We will analyse these results later and connect them to the results of study 1.

Conclusion

Most programmes provide information about their content orientation, as it is often mentioned their title (multiple naming possible). Other information is mostly not as transparent as the content of the programme.

This may have several different reasons: Some characteristics may not be exactly determined in the planning of the programmes, other features may not be supported due lack of funds or it is just not mentioned on the website.

Outlook

In future research we will not only focus on medical, but also on other life sciences programmes. We will try to collect further data directly from the programmes and will conduct interviews with persons responsible, to get detailed information about characteristics of the doctoral phase of our respondents from study 1.

Also, the style of composition, emphases and structures of programmes which potentially influence the outcome of the doctorate will be considered. Therefore, a cluster analysis of all programmes involved is planned. We aim at identifying different types of programmes with shared characteristics and similar alignment.

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E-Prom

Programme description

Funded by (74.1%)
- DAAD, German Research Foundation (32.8%)
- University or Faculty itself (20.7%)
- Other third party (13.8%)
- BMBF, Federal Ministry for Education and Research, or in another way government-financed (10.3%)
- Max-Planck-Institute (6.9%)

Methodical orientation (24.4%)
- Experimental (9.3%)
- Translational (5.8%)
- Mixed (5.2%)
- Clinical (4.1%)

Content orientation (98.84%)
- Neuroscience (19.0%)
- Immunology (13.8%)
- Oncology (12.3%)
- Cardiovascular Research (8.6%)
- Pharmacology (6.9%)

In study 3 we are currently analysing documents of doctoral programmes that are available for interested parties, like students. We include programmes that our respondents in study 1 were enrolled in during their doctorate.

By now, we assigned 2010 codings manually and nearly 5400 automatically.

In the figure below you see a selection of categories that we extracted from the documents via open and consensual coding. The numbers in brackets behind the categories indicate the percentage of all programmes (N=58) that provide information to this specific topic.

Programme’s Cooperation (66.6%)
- with other academic institutions (44.8%)
- with institutions outside academia (22.1%)

Administrative support for doctoral students

• Funding for doctoral students (56.0%)
  - Scholarship (68.5%)
  - Research or student assistant (10.3%)
  - Own funding required (6.9%)
• Funding of further costs (44.8%)
  - Attend a conference (24.1%)
  - Stay abroad (13.1%)
  - Additional advanced training opportunities, e.g. summer schools (22.3%)
• Equality (25.9%)
  - Gender support (18.9%)
  - Family support (14.4%)

Networking opportunities with scientific community for doctoral students (43.1%)
- Stay in other work groups, institutions or corporate sector (24.1%)
- Participation in conferences, workshops, summer schools or the like (37.9%)