

34 DOCTORATES IN IS: TIME FOR A RETHINK?

Carl Adams
Southampton Institute
United Kingdom

Abstract

This paper aims to generate discussion on the future role and format of doctorates within the IS discipline. Concerns of the traditional Ph.D. programs are examined with regard to the IS field. Models of doctorates used in other disciplines are explored. One such model, the professional Doctorate in Education (Ed.D.), is examined in greater detail. There are similarities between the Education and IS disciplines, particularly the close link between professional practice and research, which may make such a model appropriate for IS. The long history of the professional Ed.D. in America, and the more recent adoption by universities in Australia and the United Kingdom, means the Ed.D. model can be considered as tried and tested. It is argued that there is a case to moved toward the Ed.D. model for professional IS doctorates. It is also argued that such a model may enhance the perception and practice of IS as a separate discipline.

Keywords: Professional doctorates, Ph.D. programs, information systems discipline.

Introduction: Concerns with the Traditional Ph.D.

Hockey (1996) discusses some of the problems with, and changes to, the traditional Ph.D., the emphasis changing from primarily generating new knowledge to that of providing training for the future researcher:

Reform and development in the field of research degree education in Western industrialized countries has been growing in momentum for the last decade. Concerns have arisen over the cost-effectiveness,

appropriateness and efficiency of programs, and demands have increased for the training of highly qualified personnel capable of enhancing economic competitiveness at a national and international level. [Hockey 1996, p. 359]

Other concerns of the traditional Ph.D. relate to the completion and withdrawal rates for Ph.D. students as well as variations between disciplines, gender, and mode of study (Booth and Satchell 1995). Further concern relates to the how long it takes to complete a Ph.D., with time to completion apparently increasing (Rent and Anderson 1996). Shorter completion times seem to favor those beginning graduate school at an early age (ibid). There have been much discussion on the purpose of Ph.D.s and it is questioned whether they meet the needs of society (Thomsom 1996). Conversely, there has been concerns voiced on the possible “overproduction” of Ph.D.s and that “*Ph.D. programs have failed to develop the flexibility needed for articulation with nonacademic careers*” (Geiger 1997), although these concerns seem to stem from the courses not meeting the needs of industry and business.

For the IS field, some of the above concerns are more pronounced. Economic competitiveness has many associations with the introduction and use of technology dating back to the time of Adam Smith. Smith noted that the wealth of a nation is dependent on how well it organizes its production in national businesses and factories and that higher levels of industrial effectiveness and productivity lead to higher living standards for the population (Elliot and Starkings 1998). Today people talk of information-based economies, described as “*A national economy where the majority of national wealth is produced by creating, processing and transmitting information*” (p. 3). The IS field is key to economic competitiveness.

To produce enough doctorate level people to contribute to economic competitiveness, first one needs to attract people to participate in doctoral programs. In an examination of Ph.D.s in the U.S. for a related discipline, Computer Science (Maisel and Gaddy 1997, p. 92), the number of Ph.D.s doubled between 1986 (399) and 1991 (800), then the increase was more gradual until 1995, at which time there were 998. Interestingly, the average age of a Computer Science doctorate over the study remained fairly constant at about 32 or 33 years old. The number of people getting Ph.D.s is slowing down. Is this a product of over-production of Ph.D.s in a saturated market? The study identified very low unemployment rates among recent doctorates (p. 91). In addition, the majority of the Ph.D. graduates examined in this study went to the business sector. There seems to be a very buoyant market for these Ph.D.s, particularly in the business sector, but a slowing down of Ph.D. completions. A worrying trend. It is difficult to say if this trend in Computer Science is replicated in the IS field, but they are related fields with much overlap.

Attracting people to doctoral level study in IS is a particular problem from a funding perspective. A recent response in the UK to the Research Assessment Exercise (UKAIS 1998, p. 3) identified problems of funding including that IS proposals often fall between two research funding councils, the ESRC and the EPSRC. The job market for people in IS is and has been very buoyant, so it is difficult to attract suitably qualified doctoral candidates when they can get exceptional remuneration in the business sector.

Existing professionals can ill afford three or four years away from the profession for full time doctoral study. However, there is potential synergy for experienced professionals and practitioners to embark on doctoral study: experienced people can start

their study with a high level of pre-knowledge of current development and business practice and have gained that knowledge within the context of organizational situations. IS research is typically a mixture of theory and practice (UKAIS 1998, p. 4); as such, the close link between research and practice can be enhanced with the inclusion of more practitioners in doctoral programs. Typically, the only way IS professionals (both academic and practitioners) can undertake doctorate level study is via a part time mode. However, the structure of traditional Ph.D.s programs is particularly inappropriate for part time study. The lack of structure and the long time-frame of a part time Ph.D. make it easy for lack of momentum to set in resulting in difficulties in completing. The worry of long time to completion of doctorates (Rent and Anderson 1996) is especially relevant for IS, given the fast rate of change of technology and absorption into business (Elliott and Starkings 1998, p. 21) and society in general.

Overall, the traditional Ph.D. as the *sole* means of achieving a doctorate within IS leaves much to be desired. While they seem appropriate for training researchers, they are less appropriate for meeting the needs of business and society in achieving economic competitiveness.

Other Models for Doctorates

There are a range of models for doctoral programs. There are honorary doctorates, usually bestowed as a recognition of exceptional achievement by individuals within a field. Another model, the “doctorate by publication,” involves submission of a volume of research papers, where the rationale is typically that a candidate has produced quality research over a prolonged period and that, although they have not undertaken a Ph.D. study, they have demonstrated research and contribution equal to a Ph.D. study. Within medical fields, various doctoral programs exist, ranging from predominantly clinical practice to predominantly theory and research based (Walsh 1993). Within the educational field, Ph.D. programs are offered alongside “taught” doctorates in Education (Ed.D.) (e.g., Maxwell and Shanahan 1997). Similar “taught” doctorates of business administration exist to provide doctorate level education to aspiring senior level management (e.g., SBE 1998).

This is not an exhaustive examination of the range of doctoral programs available, the aim is to show that there are other acceptable models of doctoral programs to the traditional Ph.D. Within the IS field, the traditional Ph.D. is predominant with few, if any, alternatives. The IS field does not have to restrict itself to the Ph.D. model and, given the concerns identified above, the IS field should consider other models for doctorate programs. The next section takes a closer look at one such model, the Ed.D., and assesses its suitability for the IS field.

Closer Examination of Ed.D. Programs

What are Ed.D.s? The distinction between Ph.D.s and Ed.D.s is summed up with the following from a prospectus at Southampton University (1996):

The Ed.D. differs from the traditional Ph.D. in that it includes a substantial taught element enabling course members to acquire a

considerable depth in that chosen specialism and a range of research skills....The course is intended for experienced professionals who wish to extend and deepen their expertise but who are not intending to become career researchers.

Ed.D.s are typically described as *professional* doctorates. Maxwell and Shanahan (1997) distinguish between pre-service awards, predominantly offered in the U.S., and in-service or professional development awards, offered in Australia. Each variety consists of substantial taught components involving course work as well as a research thesis, although the proportion of course work to thesis varies considerably between programs. The high proportion of course work can relate to a more defined structure than a traditional Ph.D., enabling more distinct milestones which may reduce the problem of "loss of momentum" associated with part time Ph.D. study.

Ed.D.s have a long history, being first introduced at Harvard in 1920s (Maxwell and Shanahan 1996, 1997, p. 134). Introduction elsewhere has been more confined to the later years. For instance, more than half of Australian universities introduced Ed.D. programs in the 1990s (p. 133) and a number of UK universities have recently introduced Ed.D. style degrees.

Since the introduction of the Ed.D. there has been much critical debate on their form, content, and quality (Donaghy 1996). Typical concern centers on the perception that an Ed.D. is not a *real* doctorate and that the currency of existing doctorates might be devalued. The typical response to such criticisms is that Ed.D.s are "equal but different" to Ph.D.s in that Ed.D.s provide doctoral study for *professionals and practitioners* and are ideally suited to the field of Education.

Another form of criticism involves the development of the courses. It is argued that as many universities lack the resources to develop entirely new courses they tend to slot Ed.D. students into existing units on master's programs such as M.Ed., which in turn undermines the status of the Ed.D. (Maxwell and Shanahan 1997, p. 139). It is clear that high quality Ed.D. programs require thoughtful design.

With such a long history, the professional Ed.D. models can be considered tried and tested formats to deliver doctorate level study. They are not Ph.D.s but can be considered something "equal but different," primarily aimed at meeting the needs of professional practitioners. There are some concerns about Ed.D. style doctorates, emphasizing the need for thoughtful design of such programs.

Discussion

Are professional Ed.D. style doctorate programs suitable for IS? When discussing the suitability or otherwise, I will first examine any similarities between the education field, where there is a history of providing Ed.D. programs, and secondly examine the specific needs of the IS field.

As with the IS field, Education is multidisciplinary. Faculty members usually have at least two disciplines: education and their subject area. Typically, professionals (and specialists) from very different disciplines are brought together under the umbrella of Education: Educational journals typically contain work from diverse disciplines; for example, a recent issue of *Educational Action Research* (Volume 5, 1997) contained contributions from such diverse areas as Social Work, Mathematics, and Management.

However, the most striking similarity, and possibly the strongest rationale for an Ed.D. style doctorate within IS, is the close link between practice and research.

Such a professional IS doctorate may ideally suit existing professionals. Course work for individual units could be performed within the context of professional practice (as is the case for Ed.D.s). The professionals will thus have readily accessible research material which can be studied in context. There are likely to be more specific and well defined milestones (i.e., each item of course work) reducing the problems of lack of momentum in traditional Ph.D. programs. The professional's employers are also likely to gain from such a program with the potential of free high quality internal research and analysis, a factor which may improve the funding situation of practitioners undertaking doctoral study. The part time and professional suitability is emphasized by some universities only offering part time Ed.D.s to existing practitioners (Maxwell and Shanahan 1997, p. 147).

There is an argument that a professional IS doctorate, with taught elements, might further IS as a discipline. IS is a multidisciplinary field (UKAIS 1998); as such, it makes sense to have separate instructional modules each covering a specific discipline. One can see an argument developing here with very specialized Ph.D.s on one side and broader professional Ed.D. style degrees on the other. However, such Ed.D. style degrees do not necessarily mean an end to specialization. For instance Florida International University offers an Ed.D. in Curriculum and Instruction with a specialization in International and Intercultural Development Education (IIDE 1998). The contents of many Ed.D. programs are weighted toward "elective" units and a dissertation, fostering specialization while at the same time covering a range of topics.

Professional Ed.D. style degrees may be one way to carve out IS as a separate and distinct discipline by emphasizing the multidisciplinary nature of IS. Each academic institution could offer their own selection(s) of multi-disciplines and specialization. Multidisciplinary doctoral programs have been used to develop other fields, notably Biochemistry (Moffat 1995). In the Biochemistry example, doctoral study can involve a year of preparation, consisting of taught elements, in a (relatively) broad range of disciplines before commitment to a thesis.

The main characteristics of a professional doctorate, based on an Ed.D. model, that seems relevant for IS are:

- close relationship with professional practice and research
- enables specialization as well as covering distinct areas
- more structure (i.e., taught elements) enhancing the potential for part time and professional study
- more definite time frames —quicker time to completion, less drop-outs
- possibly, further enhancing IS as a discipline

Would the introduction of a Ed.D. style IS doctorate replace Ph.D.s? I think not, as within the educational field, Ph.D. and Ed.D. programs fit comfortably together, with educational institutions typically offering both programs, each program meeting a different set of needs. Ph.D. programs in IS are likely to be the predominant means of achieving a doctorate.

Although there seems to be some potential, the Ed.D. may not be the *best* format for professional doctorates in IS. IS is repeatedly referred to as an applied field; however, given the format of the traditional Ph.D., practitioners are effectively excluded from doctorate level research and study. What is needed is a more "practitioner friendly"

mechanism to provide doctorate level study. Identifying a suitable study model will require debate throughout the IS community. The Ed.D. format gives a starting point to promote and focus further debate.

Conclusion

There are a range of concerns over the suitability of the traditional Ph.D. program as the *sole* provision of doctorate level research and study for the IS field. The IS field should not be restricted to just the traditional Ph.D. model for doctoral programs: other fields make use of a variety of programs, notably the use of Ed.D. programs in Education. There are similarities between the IS and Education fields, particularly the close relationship between practice and research, which raise the question of the suitability of incorporating a professional Ed.D. model within IS. Such a model seems suitable and offers some possible synergies, particularly for part-timers and practitioners.

In true academic style, I shall conclude this short paper with the following: "Would a future professional Ed.D. style doctorate, say an IS.D., be a *real* doctoral degree or just a master's degree or something between, or indeed, something else. Discuss."

References

- Booth, A. L., and Satchell, S. E. "The Hazards of Doing a Ph.D.: An Analysis of Completion and Withdrawal Rates of British Ph.D. Students in the 1980s," *Journal of the Royal Statistical Society Series A -Statistics in Society* (158:2), 1995, pp. 297-318.
- Donaghy, B. "Concerns Vver 'US-Style' Doctorates," *Campus Review*, 24-30 April 1996, p. 4.
- Elliot, G., and Starkings, S. *Business Information Technology, Systems, Theory and Practice*, Longman Publishing, London, 1998.
- Geiger R. "Doctoral Education: The Short-term Crisis vs. Long-term Challenge," *Review of Higher Education* (20:3), 1997, p. 239.
- Hockey, J. "A Contractual Solution to the Problems in the Supervision of Ph.D. Degrees in the UK," *Studies in Higher Education* (21:3), 1996, pp. 359-371.
- IIDE. Florida International University web page for Ed.D. in Curriculum and Instruction, (IIDEwww.fiu.edu/~iide/index.html), 1998.
- Maisel, H., and Gaddy, C. "Employment and Salaries of Recent Doctorates in Computer Science," *Communications of the ACM* (40:9), 1997, pp. 90-93.
- Maxwell, T. W., and Shanahan, P. J. "The Doctor of Education in Australia: Some Comparative Data," *Journal of Institutional Research in Australia* (5), 1996, pp. 7-18.
- Maxwell, T. W., and Shanahan, P. J. "Towards a Reconceptualization of the Doctorate: Issues Arising from Comparative Data Rrelating to the Ed.D. Degree in Australia," *Studies in Higher Education* (22:2), 1997, pp. 133-150.
- Moffat, A. S. "Changing Doctorate: GradSchools Preview the Shape of Ph.D.s to Come," *Science* (270:6), October 1995, pp. 128-133.

- Rent, G. S., and Anderson, B. J. "Time to Degree: Factors Related to Years in Earning a Doctorate," *Sociological Spectrum* (16:1), 1996, pp. 61-82.
- SBE. Web site for the DBA at School of Business and Entrepreneurship, Nova Southeastern University, (<http://www.sbe.nova.edu/sbe/dba.html>), 1998.
- Thomsom, A. "Doctorates in Need of New Direction," *The Times Higher Education Supplement*, 9 August, 1996, p. 2.
- UKAIS. *The UKAIS Newsletter* (14:1), March 1998.
- Walsh, J. A. "University Expectations for Clinical Social-work Doctorates: Are They Different?" *Clinical Social Work Journal* (21:3), 1993, pp. 319-329.

About the Author

Carl Adams is a senior lecturer in Information Systems at the Southampton Business School, Southampton Institute, UK. Before returning to academia, his professional work experience spanned more than 10 years, in a variety of roles, developing large scale computer systems. He is currently undertaking a part time Ph.D. His research interests includes ISD processes and approaches to dealing with uncertainty within those processes E-mail: Carl.Adams@solent.ac.uk

