

The future of the PhD in the digital age

Chris Park

Director of the Lancaster University Graduate School
Senior Associate of the Higher Education Academy

Context

- “Information Revolution”
 - McLuhan – global village
 - Digital technologies
 - Students as “digital natives” (D-gen)
- Electronic archives & digital libraries
 - Scholarly communication (cf publication)
 - Electronic theses & dissertations (ETDs)
- Changing nature of the doctorate
 - Process (developing the researcher) vs product (thesis)
 - *Redefining the doctorate* – HEA discussion paper

Supporting the doctorate

- “Back-office” functions
 - Recruitment
 - Online prospectus, search engines
 - Online application & confirmation
 - Administration
 - Online registration
 - Fee-billing
 - Student records, progression
 - Communication – email lists
 - Research Training Programme
 - Promotion, registration, tracking, follow-up
 - Graduation
- Student experience
 - Training Needs Analysis, PDP

Doing the doctorate

- Choice of topic
 - Situated within research literatures
- Information sources
 - Literature – search & review
 - Digital data sources – eg GPS, archive data
- Methodology
 - Analysis – qualitative, quantitative
 - Handling large data sets
 - Modelling, forecasting, simulation

□ Writing

- Note-taking
- Outlining
- Drafting
- Patch-writing
- Editing and revising
- Formatting

□ Illustrations

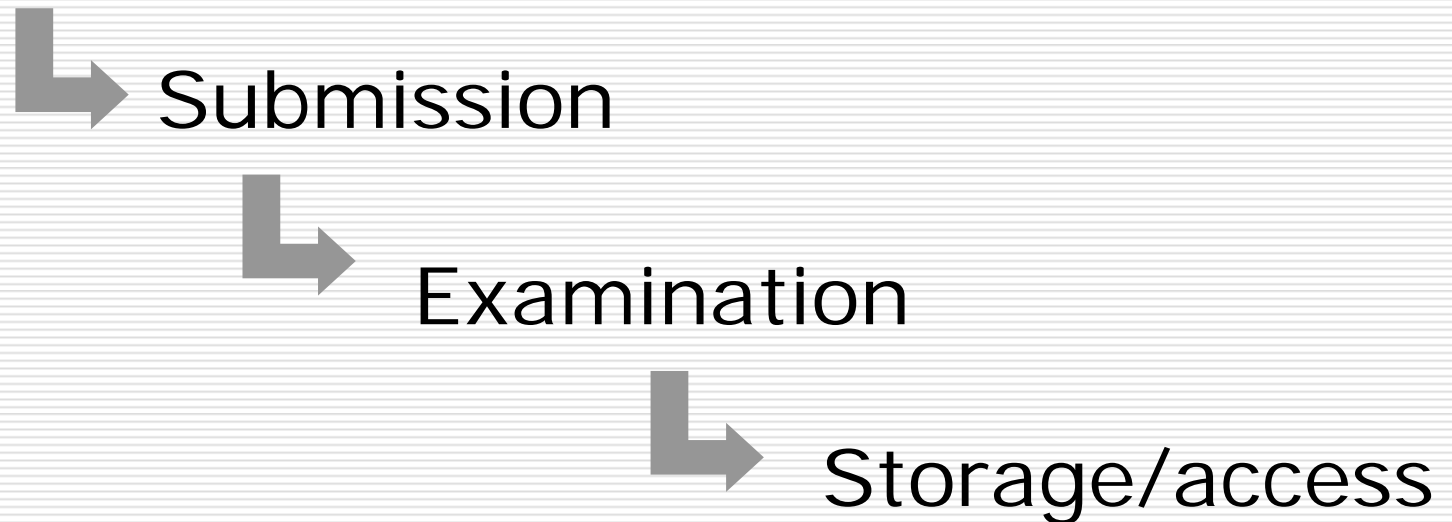
- Graphics, maps, diagrams
- Digital images, incl photographs

□ Presentations

- PowerPoint

Presenting the doctorate

Production



Production

- Word processor, DTP
 - Similar format, appearance

Submission

- Printed version
 - The norm
- Digital version
 - Optional or required?
 - Plagiarism detection

Examination

- Printed version

Storage/access

Thesis

Printed version

E-thesis

Datasets - archiving & sharing

UK - JISC 'FAIR' programme

- Focus on Access to Institutional Resources
 - 14 projects since 2002; 3 on ETDs
 - Open Archives Initiative (OAI) compliant repository
- *DAEDALUS*
 - University of Glasgow
 - Building range of digital collections
 - Exploring technical and cultural issues
- *Theses Alive!*
 - University of Edinburgh
 - Developing thesis submission/management system
- *Electronic Theses*
 - Led by Robert Gordon University
 - Exploring issues associated with production, management and use of electronic theses
 - Aim to produce a model for use across the sector

UK - EThOS project

- Electronic Theses Online Service (2004)
 - Funding - JISC, Consortium of University Research Libraries (CURL), British Library, National Library of Wales, universities
 - Aim - to deliver a fully operational, easily scaleable, and financially viable prototype online electronic theses service, and supporting infrastructure
- Designed to replace current British Library theses service – more efficient
 - EThOs central hub
 - Harvest selected materials from institutional repositories
 - Allows users to search the archive and access full text, in secure format, of electronically stored theses

E-theses – benefits [Copeland & Penman 2004]

- For students
 - Express results in more flexible ways
 - Thesis more likely to be read more widely
 - Cost-effective cf multiple bound copies
 - Improves IT skills
- For academic staff
 - Access to research results – 24x7, remote
 - Simultaneous use by multiple researchers
 - Saves time/cost in requesting hard copy
 - Encourage students to produce research findings in more appropriate ways
 - Access theses from other HEIs – styles/standards

□ For institutions

- Improved access to research findings
- Promote research profile of institution

□ For Libraries

- Save on storage space
- Save on staff time spent on retrieving and re-shelving hard-copy theses
- Reduced number of Inter-Lending requests
- Easier to collect usage statistics
- Improvement to service ... improved customer satisfaction

E-theses – barriers [Copeland & Penman 2004]

- Copyright and IPR issues
 - Greater clarity and awareness
- Authentication
 - Work in progress
- Long-term preservation
 - Digital-only material (no printed version)
- Level of IT skills required
 - Training for students, supervisors, examiners

Technical issues

■ Suitability

- Software – options, criteria for selection

■ Functionality

- Interface; long-term preservation; searchability; metadata; storage capability; security

■ Interoperability

- Cross-institutional access

■ Sustainability

- Need for continued support & development

E-theses - issues

- e-submission
 - Optional or mandatory: Voluntary deposit vs compulsory
 - Either or both formats - printed, electronic
 - Institutional regulations
- Deposition in e-archive
 - Supervisor's approval; necessary or advisable?
 - All or only the best theses
 - Who decides? Criteria?
- Time lag
 - Make freely available online on acceptance
 - Embargo period: eg for a sensitive research area, possible patent application, or intent to publish thesis as book or journal articles

PhD by Publication

- Need permission from publishers to include published material

Version control

- Repository copy must be identical to that passed by examiners

Back catalogue

- Who is responsible for scanning and archiving?
- Needs students permission?

Copyright

- Students retain the copyright of their thesis

-
- Prior publication
 - Need reassurance that most publishers will not regard the e-thesis as a prior publication
 - Intellectual Property Rights
 - Student needs to safeguard their IPR
 - Protect staff IPR as supervisors
 - Peer review
 - Mixture of electronic theses and published peer-reviewed material in e-prints repository
 - Examination process as peer review
 - Examining the e-thesis
 - Not tied to one location or one time
 - Issues of verification, authorship

Conclusions

- ❑ “We have the technology ...”
- ❑ Costs vs benefits
- ❑ Operational challenges
- ❑ Winning hearts and minds
- ❑ “One day all theses will be published this way ...”