The Development and Prospect of ETDs of Taiwan and Hong Kong: Case Study from National Central Library (NCL) of Taiwan and Chinese University of Hong Kong (CUHK)

Presented by
Hung-Te Wang¹, Jeff Liu², An-Chi Lin¹, Ting-Yu Wu¹
¹National Central Library, Taiwan
²The Chinese University of Hong Kong Library
Overview

- About National Digital Library of Theses and Dissertations in Taiwan (NDLTD-Taiwan)
- About The Chinese University of Hong Kong Electronic Theses and Dissertations (CUHK ETD) Collection
- Comparison of NDLTD Union Catalogue in Taiwan vs CUHK ETD Collection
- Experience Sharing
- Prospect and Conclusion
About National Digital Library of Theses and Dissertations in Taiwan (NDLTD-Taiwan)
http://ndltd.ncl.edu.tw/
About NCL

- First established in 1933 at Nanjing, China, and then relocated to Taiwan in 1954 due to the war.
- The only legal deposit library of theses and dissertations in Taiwan according to the Degree Conferral Law & Library Standards
- Providing ETDs services based on the core value of open access
Importance of ETDs

- Gray literature, not officially published
- Difficult to collect
- Can only be retrieved in limited places, not for circulation
- Academic outcome of higher education
- Index of the academic influence of a researcher
Published the “Bibliographies of Theses and Dissertation of the Republic of China”

Developed the “Retrieval System of Theses and Dissertations Abstracts in Taiwan”

Established the second-generation system of the “Information Network of Theses and Dissertations in Taiwan”

Designated by the Ministry of Education to conduct the “Archive Project of Abstracts of Theses and Dissertations in Taiwan.”

Launched the “Information Network of Theses and Dissertations in Taiwan”, and further integrated the co-building and download services to the database.

Established the third generation of the system and renamed it as “National Digital Library of Theses and Dissertations in Taiwan (NDLTD-Taiwan)”
ETD Embargo & Copyright

Under the provisions of Copyright Law:

**Bound Copy:** Cannot be embargoed by default. Student can file an application to extend the embargo period for 5 years top.

**ETD:** Authors can decide the accessibility of their own ETD. All submitted ETD are embargoed by default, until the authorization letter is received.
Current Status of NDLTD-Taiwan

- Non-exclusive copyright
- Collecting theses and dissertation from all disciplines
- The earliest thesis can be dated back to 1956.
- Member of the NDLTD since 2010

As in July 2017,

over **1,020,000** records be found in NDLTD-Taiwan,

**600,000** with full-text,

**400,000** authorized full-text can be downloaded
As at July 2017, NDLTD-Taiwan is only second to OCLC in the number of bibliographic entries uploaded.
Collaboration with 142 Universities in Taiwan

- **7** Non open access submission platform
  - Abstract / Full-text
  - Sharing online catalogue
  - Bibliography replication
  - Authorized full-text replication

- **35** open access submission platform
  - Abstract / Full-text
  - Sharing online catalogue/ full-text
  - Bibliography replication
  - Authorized full-text replication

- **100** NCL online submission platform
  - NCL open access
  - Union Catalogue
  - Abstract/ Full-text
  - Value-Added Services & Platform Management
Advantages of using NCL online ETDs submission platform

- Free online submission platform & ETDs repository service
- Same interface, software and hardware as NCL, with central support
- Reduce the cost of maintenance
- Have full autonomy of the ETDs (authorization, output format, and etc)
- Export metadata/bibliography/ full-text on demand
The number of authorized ETDs, deposited ETDs & paper copies are increased every year.
Challenges

- Limited space & budget
- Highly expected & questioned by various parties
- Pressure from business opponents
- How to increase the academic influence of the database?
## Strategies

<table>
<thead>
<tr>
<th>Co-build &amp; share</th>
<th>Acquisition</th>
<th>Collaborative depository</th>
<th>Share with the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborate with universities to submit the ETDs</td>
<td>Amending the Degree Conferral Law to deposit ETDs</td>
<td>Digital collection: National union catalogue/database</td>
<td>Open &amp; free access</td>
</tr>
<tr>
<td>The submitted ETDs can be shared by all participant schools</td>
<td></td>
<td>Offsite backup</td>
<td>Handle system for permanent URL</td>
</tr>
<tr>
<td>NCL published the annual ETD research trend report</td>
<td></td>
<td>Mirror site for long term preservation</td>
<td>Join NDLTD</td>
</tr>
</tbody>
</table>
Find us by using the easiest way.
About Chinese University of Hong Kong Electronic Theses and Dissertations (CUHK ETD) Collection
http://repository.lib.cuhk.edu.hk/en/collection/etd
CUHK was established in 1963 with 8 faculties and 9 colleges
About CUHK Libraries

CUHK has 7 libraries which situated in different locations in the campus.

Upper campus:
(1) New Asia College Library
(2) United College Library

Central campus:
(3) University Library
(4) Law Library

Lower campus:
(5) Chung Chi Library
(6) Architecture Library

Prince of Wales Hospital:
(7) Medical Library
About CUHK Theses & Dissertations

- CUHK started to build the thesis and dissertation collection in 1967
- All the theses and dissertations were physically stored in the University Library and occupied around 40 book shelves
- An increase of about 600 theses and dissertations every year
Why we build the CUHK ETD Collection?

- Since the establishment of our Library, library users can only search the theses from the Library Catalogue or physically on bookshelves.
- To improve the convenience in conducting research, library users requested online access to the theses and dissertations.
- CUHK Library started the first digitisation project in 1995 which covered different subject areas, but **NO ETD; need to catch up to meet user needs**.
- Change of senior management of Library and Graduate School shed the light for the development.
- ETD copyright policy has been established to address the issue.
- No National Library → No Centralized platform → Build our own system to house all records.
## CUHK ETD Copyright and Access Policy

<table>
<thead>
<tr>
<th>Submission Year</th>
<th>Copyright Holder</th>
<th>Access &amp; Embargo</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-2007</td>
<td>CUHK</td>
<td>Library uploaded and made available of all submitted theses and dissertations with take down policy</td>
</tr>
<tr>
<td>2008 to present</td>
<td>Student</td>
<td>Students were requested to sign an agreement on admission to allow CUHK to distribute their work (e.g. via the ETD platform)</td>
</tr>
</tbody>
</table>
| Dec 2014 to present | Student       | • One-year “restricted access” was granted automatically  
• Students could opt for “restricted access” if they wish to release their theses immediately for open access.  
• Students could also request to keep their theses confidential provided that their work were submitted to the Executive Committee of the Graduate Council for consideration |
Tasks for Building the Collection

Digitisation / File Conversion

After scanning, all digital files (including Chinese and English) were OCRed for enhancing access and discovery.

Metadata

Metadata downloaded from Integrated Library System (Innovative) to ensure information can be re-used (e.g. abstract (Marc tag 5XX) and TOC (Marc tag 970)).

Platform

<table>
<thead>
<tr>
<th>Function</th>
<th>Browse</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Author</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Degree</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Department</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>Full Text</td>
<td>N/A</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Timeline of Developing ETD Collection

- **2010**: Liaised with Graduate School about e-submission of theses
- **2011**
  - Planned retrospective digitisation and devised new policy and guidelines for electronic submission

- **2012**
  - Started processing e-submission data and prepared prototype of ETD system

- **2013**
  - Started converting 2,533 doctoral dissertations (1997-2010) from microfiche

- **2014**
  - Sent the first batch of physical theses to digitisation and started receiving theses via e-submission

- **2015**
  - Launched the 1st generation of the ETD platform

- **2016**
  - Launched the 2nd generation ETD platform in the Digital Repository

- **2017**
  - Joined NDLTD as member and harvested by the NDLTD Union Archive
Our current ETD Collection is hosted under our CUHK Digital Repository which is a one-stop repository for accessing all the publicly available digital content created and maintained by the CUHK Library.
Current Status of CUHK ETD

- As at June 2017, over 13,000 records were ingested into the ETD collection
- Over 500,000 access of the collection recorded since the re-launch at June 2016 (50% traffic of the CUHK Digital Repository platform)
- Since Hong Kong does not have national library similar to that of the NCL in Taiwan, Hong Kong Institutional Repositories (HKIR) was built by Hong Kong University of Science and Technology
- ETD collection was harvested by NDLTD, HKIR, OpenDOAR, BASE, Core@UK, etc
- After launching the ETD collection, the space for the print theses was vacant to introduce a new Digital Scholarship Lab
Comparison of NDLTD Union Catalogue in Taiwan vs CUHK ETD Collection
## Comparison of NDLTD Union Catalogue in Taiwan vs a CUHK ETD Collection

<table>
<thead>
<tr>
<th>Content</th>
<th>Taiwan NCL</th>
<th>CUHK Library</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverage</strong></td>
<td>From 1956-</td>
<td>From 1967-</td>
</tr>
<tr>
<td><strong>Number of submissions/records</strong></td>
<td>Over 1,020,511 records with annual growth of 60,000 records</td>
<td>Over 13,000 records with annual growth of 600 records</td>
</tr>
<tr>
<td><strong>Submission Method</strong></td>
<td>Paper form and Electronic</td>
<td>Electronic only since 2012</td>
</tr>
<tr>
<td><strong>Retrospective scanning</strong></td>
<td>Yes for doctoral dissertations for preservation purpose</td>
<td>All records for both preservation and access purpose</td>
</tr>
<tr>
<td><strong>Content enhancement (e.g. OCR)</strong></td>
<td>Not done due to policy limitations</td>
<td>Yes, all items were OCRed, typed/indexed</td>
</tr>
<tr>
<td><strong>Quality Checking</strong></td>
<td>Performed by individual universities and NCL responsible for the overall system</td>
<td>Performed by CUHK Library</td>
</tr>
</tbody>
</table>
Comparison of NDLTD Union Catalogue in Taiwan vs a CUHK ETD Collection

<table>
<thead>
<tr>
<th>Hosting/Platform</th>
<th>Taiwan NCL</th>
<th>CUHK Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support of institutional repositories application</td>
<td>Most institutions</td>
<td>Yes</td>
</tr>
<tr>
<td>National/Regional-wide Union Catalogue for metadata</td>
<td>Yes</td>
<td>Yes (via HKIR)</td>
</tr>
<tr>
<td>Centralised storage and system</td>
<td>Yes (NCL), cost saving for all participating universities</td>
<td>No (individual institution has its own system)</td>
</tr>
<tr>
<td>Primary service provider of ETDs</td>
<td>NCL</td>
<td>Each university</td>
</tr>
<tr>
<td>Software platform</td>
<td>Local developed platform (Current one is the 3rd generation)</td>
<td>From locally developed platform migrated to open source platform (current one in 2nd generation)</td>
</tr>
</tbody>
</table>
## Comparison of NDLTD Union Catalogue in Taiwan vs a CUHK ETD Collection

<table>
<thead>
<tr>
<th>Policy/Mandates/Embargoes</th>
<th>Taiwan NCL</th>
<th>CUHK Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandates</td>
<td>Yes, for paper-form submission according to the Taiwanese Copyright Act in 1994. No for electronic form submission</td>
<td>By the agreement when all graduates enrolled to their study</td>
</tr>
<tr>
<td>Copyright holder</td>
<td>Varies</td>
<td>Varies (According to submission year)</td>
</tr>
<tr>
<td>Latest Embargoes Policy</td>
<td>Embargo not lifted until paper copy of the authorization letter is received</td>
<td>1 year by default. Extension approval sought from Graduate School</td>
</tr>
<tr>
<td>Support of Open Access</td>
<td>Mostly</td>
<td>Mostly</td>
</tr>
</tbody>
</table>
### Comparison of NDLTD Union Catalogue in Taiwan vs a CUHK ETD Collection

<table>
<thead>
<tr>
<th>Other Areas</th>
<th>Taiwan NCL</th>
<th>CUHK Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership/Collaboration Units</td>
<td>Ministry of Education Republic of China (Taiwan) + 142 universities in Taiwan</td>
<td>Graduate School in CUHK</td>
</tr>
<tr>
<td>Manpower</td>
<td>3 full time staff</td>
<td>3 full time staff</td>
</tr>
<tr>
<td>Record contribution to external</td>
<td>Minority</td>
<td>Yes</td>
</tr>
<tr>
<td>databases/directories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETD Inter Library Loan service</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Roles</td>
<td>As a national library to host and enhance the system</td>
<td>Only as a member to build collection contribute records</td>
</tr>
</tbody>
</table>
Experience Sharing

- Technology and user requirements keep changing
- No definite answer for which platform is better as long as it conforms to standards and meet user requirements
- Policy/Mandates play an important role for building ETD
- Having a national level to “Go together” can save time and cost that ensure sustainability and standardization
- ETD is for both preservation and access, better to scan them all and add more value into it if resources allowed
- Better to start planning the ETD earlier before the collection grown up!
Prospect & Conclusion

● To develop our ETD platforms as Open Access institutional repositories
● To enhance importance in national-wide ETD metadata and repository service
● To enhance the discoverability of institutional and national level’s ETD for users of the global research community
● To monitor and prevent plagiarism through Open Access
● To embed ETD collection into research life cycle and Library’s e-research support service
Thank You!
謝謝！

Contact:
hunter@ncl.edu.tw
jeffliu@lib.cuhk.edu.hk ; twitter@jeffliu
evawu@ncl.edu.tw
angela@ncl.edu.tw