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Using digital storytelling with local history: Waglan Island Lighthouse and the Father of the Fishermen in Hong Kong

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#### **Abstract:**

Lighthouse Heritage Research Connections (LHRC) at the Run Run Shaw Library of City University of Hong Kong makes Digital Humanities a participatory force within the local Hong Kong community. First lit in 1893, the Waglan Island Lighthouse is one of 34 lighthouses built along the coast of China by the Chinese Imperial Maritime Customs Service. In the 1950s, Charles Thirlwell uplifted the social status of once ostracized local fishermen community through international dragon boat races.

Guided by the Association of College & Research Libraries Framework for Information Literacy for Higher Education, students from different cultures, skills and fields of interest contributed by conducting focused research on lighthouse heritage, creating digital story-telling outputs and developing documentaries. Their research outputs are being archived and can be used in future exhibitions to serve as teaching and learning materials for the local communities and future generations. LHRC was designed to mimic a research cycle from content creation to publications, so that students are more incentivized to contribute and as such reinforces their sense of belonging to Hong Kong.

**Keywords:** information literacy, student learning engagement, Lighthouse Heritage Research Connections, digital story-telling

#### 1 INTRODUCTION

The International Federation of Library Associations and Institutions ("IFLA") advocates that libraries are at the forefront to safeguard, preserve, and provide access to documentary cultural heritage (IFLA, 2017). City University of Hong Kong ('CityU") is a young and vibrant university which aims to develop integrated, interdisciplinary, cutting-edge programmes and

develop students' social responsibility and contribution to the public good (City University of Hong Kong, 2020). As such, the CityU Library sees itself as a cultural institution not only to preserve cultural heritage and local history and genealogy materials, but also capable to be an educator which engage students to conduct interdisciplinary research on cultural heritage and as a result reinforces their senses of belonging to the community.

The potential of cultural heritage in education is widely acknowledged, but simply provide access to the materials via the libraries is not enough. It is believed that cultural heritage materials need to be selected, contextualized and become part of the students' learning activities (Roiu, 2020). Engaging students to use print or digitized local history and genealogy materials from Gallery, Library, Archive, Museum and Records (GLAMR) is not without difficulties and as a result the usage rate of these collections have been low. The problem is that students may find it difficult to engage and interpret these collections due to chronological gap and have limited relevancy to their curriculum, even if many of the collections are being digitized and become easier for students to search and access. Thus, libraries should shift beyond merely providing access to their local history and genealogy materials. More efforts are required from the librarians to engage and guide students to interpret these collections and more ideally motivate them to contribute to the preservation of the Local history and genealogy materials and cultural heritage. This is in line with the suggestion of José O. Díaz from Thompson Library, the Ohio State University that academic libraries should move from the traditional collections-centered model to an engagement-focused one. Díaz further highlighted that the roles of an engaged librarian are Teacher, Consultant, Storyteller, Builder, Partner, and Visionary (Diaz, 2014).

## 2 LIGHTHOUSE HERITAGE RESEARCH CONNECTIONS

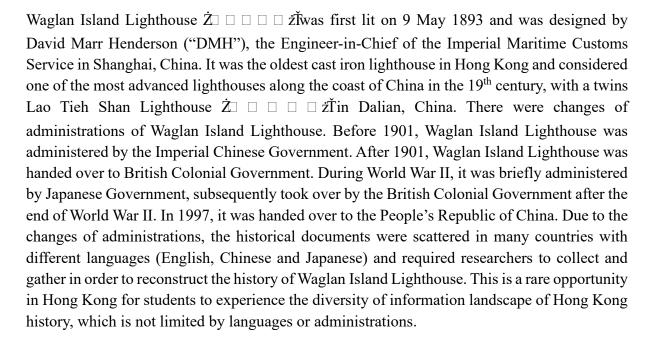
The CityU Library also saw the potential and educational value of cultural heritage and local history and genealogy materials to students and how student learning engagement can be of use to maximise these potential and educational value. Starting from 2015, the CityU Library collaborated with other faculties and initiated extra-curricular student learning engagement projects with an aim to Preserving and Appraising Traditional Cultural Heritage ('PATCH"), including Lighthouse Heritage Research Connections ("LHRC"). LHRC is designed to turn service-learning experience to a student learning engagement model themed on lighthouses, a cultural heritage that is forgotten by many local Hong Kong community, yet probably one of the few things that are commonly seen in every part of the world, even with different cultures and languages (Ching, 2018). The purpose is to encourage students to collaborate with community members to meaningfully engage with historical documents related to local maritime history, to practise their digital story-telling skills in real world, reinforce their sense of social responsibility and belonging to Hong Kong, and to reflect on their engagement process. These are the necessary components of service learning as pedagogical model (Kott, 2016). Guided by Association of College & Research Libraries ("ACRL") Framework of Information Literacy for Higher Education, students from various and diverse cultures and fields of study have brought their talents, skills, and interests to tell the local maritime historical stories with digital media in multi-disciplinary manners.

<sup>&</sup>lt;sup>1</sup> Lighthouse Heritage Research Connections. (2021). Lighthouse Heritage Research Connections (LHRC). Retrieved from City University of Hong Kong Video-on-Demand (VOD) <a href="https://www.cityu.edu.hk/cityvod/video/play/LIB/LHRC.aspx">https://www.cityu.edu.hk/cityvod/video/play/LIB/LHRC.aspx</a>

The role of an engaged librarian here when initiating LHRC is to be a *Builder* who identifies and determine areas of global opportunities, the engaged librarian identified that lighthouse heritages were the physical evidence of history and the development of culture. It is natural that there are many historical materials about these lighthouse heritages (albeit some of them can be sporadically found in the CityU Library and some can be found in the community and other professional institutions). The innovation of science and engineering also had a significant impact on the role of lighthouses, for example Bell Rock Lighthouse was one of the Seven Wonders of the Industrial World. As such, the engaged librarian saw lighthouse heritage as an opportunity for students' interdisciplinary research.

This article will first provide the history and current status of Waglan Island Lighthouse and its Principal Lighthouse Keeper/ the Father of the Fishermen Charles Thirlwell, to illustrate the need to preserve their history and legacies. The best way to preserve their history and legacies is through research. So, LHRC's student learning engagement model will then be outlined on how it was designed to mimic a research cycle from content creation to exhibitions and publications. For each stage of the research cycle, both students' learning outcome cases and the role of an engaged librarian as envisaged by Diaz will be articulated. As such, it will show that students can continue to make new contributions and add value to the cultural heritage and local history and genealogy materials, and how an engaged librarian may assist during the research cycle. The LHRC's student learning engagement model is proven to be innovative and effective and may serve as a reference for librarians who wish to engage students in cultural heritage and local history and genealogy materials and empower them to create new additions to the depository.<sup>2</sup>

# 3 THE HISTORY OF WAGLAN ISLAND LIGHTHOUSE AND THE LEGACIES OF CHARLES THIRLWELL



<sup>&</sup>lt;sup>2</sup> Morehart, P. (2021). International Innovators 2021. *American Libraries*, p. 20. Retrieved from: <a href="https://digital.americanlibrariesmagazine.org/html5/reader/production/default.aspx?pubname=&edid=31b9bec4-b148-4edc-a655-8ddae038ae0e">https://digital.americanlibrariesmagazine.org/html5/reader/production/default.aspx?pubname=&edid=31b9bec4-b148-4edc-a655-8ddae038ae0e</a>

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Since its operation in 1893, Waglan Island Lighthouse was safeguarded by lighthouse keeper until 1989 when it became automated. In 2000, Waglan Island Lighthouse was declared a monument and became a restricted area for the public. The law mandates that no person shall demolish, remove, obstruct, deface or interfere with a proposed monument or monument. As such, Waglan Island Lighthouse was well protected without any interference. The following figures (Figures 1.1 - 1.3) are the existing status of Waglan Island Lighthouse which was well protected but unfortunately not well preserved and conserved:



Figure 1.1: The interior of Waglan Island Lighthouse Principal Lighthouse Keeper's room



Figure 1.2: The exterior of Waglan Island Lighthouse Servants' Room



Figure 1.3: The Bird's Eye View of Waglan Island Lighthouse

In the 1950s, the fishermen in Hong Kong (also known as fishing families or Tanka people) still made the sea as their home and made a living by fishing. When passing by Waglan Island, the fishermen would exchange fish and shrimps for vegetables and meat from the lighthouse keepers. The friendship between the Hong Kong-born Waglan Island Lighthouse Principal Lighthouse Keeper, Charles Thirlwell, with the local fishermen began with this barter and later on became "the Father of Fishermen" in Hong Kong for up-lifting the once-ostracized local fishermen, most notably by initiated and codeveloped the first International Dragon Boat Races in Hong Kong in 1976. Charles Thirlwell passed away in 1985 but his legacy continues to resonate among his family members and the local fishermen community. One of his legacies

<sup>&</sup>lt;sup>3</sup> Heaver, S. (2022, February 27). 'Father of the fishermen' put Hong Kong dragon boat racing on the global map. *Post Magazine*. Retrieved from

 $<sup>\</sup>underline{https://www.scmp.com/magazines/post-magazine/long-reads/article/3168168/father-fishermen-how-tanka-community-campaigner}$ 

was the Charles Thirlwell "The Father of the Fishermen" Dragon Boat Competition Memorial Cup<sup>4</sup> hosted by Chai Wan Fishermen Recreational Club almost every year. It was one of the few remaining dragon boat competitions which still preserve the traditions of having dragon boats Znade of teak) of 50 paddlers, a drummer and a helmsperson competing with each other. It is culturally significant to preserve this tradition as most international dragon boat competitions require the dragon boats made of carbon fiber in order to reduce the costs and standardize the dragon boats for fairness. Yet, the stories of Charles Thirlwell and the dragon boat traditions have been largely forgotten among the young Fishermen community.

Research of Waglan Island Lighthouse heritage and Charles Thirlwell is an important means of actualizing their values. The following section will outline the LHRC's 5-stage student learning engagement research cycle when conducting research and creating digital story-telling outputs on local history about lighthouse heritage and genealogy about Charles Thirlwell and the roles of an engaged librarian as envisaged by Diaz during the research cycle.

# 4 LHRC'S 5-STAGE STUDENT LEARNING ENGAGEMENT RESEARCH CYCLE AND THE ROLES OF AN ENGAGED LIBRARIAN

The following (Figure 2) summarises the LHRC's 5-stage student learning engagement research cycle to support digital story-telling with local history and genealogy materials and will be explained in detail subsequently. LHRC is not a one-off, but ongoing student learning engagement initiative in which students of every year can refer to the students' outputs of previous years and continue to explore and create their digital story-telling outputs.



Figure 2: The LHRC's Student Learning Engagement Research Cycle Model to support digital story-telling with local history and genealogy materials

<sup>&</sup>lt;sup>4</sup> Official Name in Chinese: □ □ □ □ □ □ □ □ □

## **Stage 1: Making Observations**

In Academic Year 2021/22, There are three groups of students who conducted research themed on Waglan Island Lighthouse and its principal lighthouse keeper (who was also known as the Father of the Fishermen) Charles Thirlwell. These three groups of students were recommended and supervised by different faculties. As such, their attitudes and quality of works were guaranteed.

The first group of students came from Department of Architecture and Civil Engineering ("ACE") and Department of Computer Science ("CS"), the second group of students came from Department of Media and Communications ("COM") and the third group of students came from the Department of Electrical Engineering ("EE") and Department of Linguistics and Translation ("LT") made their own observation originated from their visit to the CityU Library. The following table outlines their respective observations:

<b>Group of Students</b>	Observations
ACE and CS	This group of students observed that Waglan Island Lighthouse was a cast iron lighthouse in the late 19 <sup>th</sup> century and probably one of the earliest cast iron architectures in Hong Kong. Yet, the Hong Kong Government Records Office did not have its engineering drawings. Also, the public were not allowed to visit Waglan Island Lighthouse as it was a restricted area.
COM	A community volunteer recorded the voice over of LHRC's documentary titled "Lighthouse Memories: Green Island Lighthouse" (which was produced by students). The volunteer revealed that she remembered her uncle worked as lighthouse keeper in both Green Island Lighthouse and Waglan Island Lighthouse (who was also known as the Father of the Fishermen Charles Thirlwell). This group of students were actively looking for the stories of Waglan Island Lighthouse and lighthouse keepers.
EE and LT	They observed that visually impaired students at CityU were perceiving the appearance of these lighthouse models by touching and listening to other students' live audio descriptions. It can be difficult for them to perceive a lighthouse without a fellow student beside them to describe the lighthouse models.

The role of the engaged librarian in this stage is to become a *Storyteller* and provide information about Hong Kong lighthouse heritage to these three groups of students according to their disciplines. This is necessary in engaging and facilitate the students in the first stage (i.e making observations) because little do they know about the historical context of Hong Kong lighthouses heritage. When they have a basic understanding of the historical context of Hong Kong lighthouse heritage, the students will have more confidence in recognizing the sources of authoritative content and that they may be packaged formally or informally and may include sources of all media types (*ACRL Framework threshold concept: Authority is constructed and contextual*).

## **Stage 2: Collecting Evidence**

The second stage of the research cycle is collecting evidence (i.e. primary source materials) of Waglan Island Lighthouses and the Father of the Fishermen Charles Thirlwell. These three groups of students collected evidence together and share their findings together.

<b>Group of students</b>	Primary Source Materials collected
ACE and CS	There were 3 highlights:
COM	
EE and LT	1. DMH's drawings of Waglan Island Lighthouse in the late 19th century were now owned by DMH's great-granddaughter Felicity Somers Eve, archived at Institute of Civil Engineers in the United Kingdom and digitized by University of Bristol:
	<ul> <li>Engineering drawing Cast Iron Lighthouse Tower for the Island nearest to the Gap Rock hand-drawn by DMH dated 15<sup>th</sup> March 1887</li> </ul>
	<ul> <li>Station Plan of Waglan Island Lighthouse hand-drawn by DMH dated 3<sup>rd</sup> March 1894</li> </ul>
	• Station Plan of drawing Lao-Tieh-Shan Lighthouse hand-drawn by DMH dated 3 <sup>rd</sup> March 1894
	2. Oral Histories and old photos of Charles Thirlwell from his family members and the local fishermen community
	3. Charles Thirlwell "The Father of the Fishermen" Dragon Boat Competition Memorial Cup which proves that Charles Thirlwell is "The Father of the Fishermen"
	There were also other types of historical documents, such as correspondences between government officials, historical maps, old newspapers, postcards, and memorabilia.

Primary source materials about Waglan Island Lighthouse were not centralized in any database or publications and require students to collect them from the intellectual property owners with the help of librarians. The role of the engaged librarian here is to be a *Consultant*, which connect the students with the right sources of information.

To obtain the high resolution images of the drawings of Waglan Island Lighthouse, the engaged librarian assisted the students to fill in and submit the request form to the Institute of Civil Engineers (United Kingdom) which digitized the drawings and Felicity Somers Eve who is the copyright owner. Due to the limited budget, the engaged librarian had to also assist the students to convince the institute and the copyright owner that obtaining the images was for research and educational purposes to reduce the licensing fees.

Also, the engaged librarian assisted the students to collect oral histories and old photos about Charles Thirlwell and the local fishermen. When the students are still developing their own credentials and reputations, the credible and reputable engaged librarian becomes necessary so that the Charles Thirlwell's family members are more willing to trust the students and share their memories more open-heartedly. The engaged librarian also reminded the students to

comply with the ethical requirements when recording oral histories. The following old photo was collected from the Charles Thirlwells' family (Figure 3.1) and a trophy was borrowed from a fisherman (Figure 3.2) respectively:



Figure 3.1: The Charles Thirlwell "The Father of the Fishermen" Dragon Boat Competitions Memorial Cup borrowed from the Dragon Boat team the Castle Peak Hop Yee Dragon who was the champion of the dragon boat competition for 3 consecutive years



Figure 3.2: A photo of Charles Thirlwell and a fishermen/Chinese lighthouse keeper Lai Kam Tai taken on Waglan Island in the 1960s

In order to obtain more evidence about Waglan Island Lighthouse, the ACE and COM students even participated in site visits. Since Waglan Island Lighthouse is a restricted area, the engaged librarian assisted the students to apply for permission from the Marine Department which is currently administering the lighthouse and it will only grant the permission if the visit is for research purposes. Here, the engaged librarian took up the responsibility that the students were visiting the lighthouse not for entertainment purposes, but for research purposes.

Because there are so many different types of primary source information about Waglan Island Lighthouse, these students were offered a real world experience to "realize that information sources vary greatly in content and format and have varying relevance and value, depending on the needs and nature of the search." (ACRL Framework threshold concept: Searching as Strategic Exploration). More importantly, through the personal interaction with the engaged librarian who assisted them to collect these evidence, the students will be able to value the skills, time and effort needed to collect evidence and produce knowledge (ACRL Framework threshold concept: Information Has Value).

## **Stage 3: Setting Research Inquiries**

The third stage of the research cycle is setting research inquiries. The following table outlines their research inquiries:

<b>Group of students</b>	Research Inquiries
ACE and CS	Whether the Engineering drawing Cast Iron Lighthouse Tower for the Island nearest to the Gap Rock hand-drawn by DMH dated 15th March 1887 is exactly the same as the existing Waglan Island Lighthouse?  What is the interior appearance of Waglan Island Lighthouse? What are the purposes of each room of the lighthouse keepers' quarters and other buildings?
COM	What was history and relationship between Waglan Island Lighthouse, the Father of the Fishermen Charles Thirlwell and the fishermen in Hong Kong?
EE and LT	How to guide the visually impaired visitors to touch the lighthouse models with the aid of mobile phone Apps?

The role of the engaged librarian here is to be a *co-Teacher*. The three groups of students were taught by the engaged librarian and faculties, after reviewing the evidence, how to "organize information in meaningful ways" and "determine an appropriate scope of investigation" under the supervision of librarians and faculties (ACRL Framework threshold concept: Research as Inquiry).

## **Stage 4: Document their findings**

The digital story-telling outputs of the first group of students (with ACE and CS) are the testimony of how these outputs can be generative. First, the ACE students virtually constructed Waglan Island Lighthouse (Figure 4.2) based on the 1887 engineering drawing (Figure 4.3). After the site visit, the ACE students found that the current Waglan Island Lighthouse was modified, probably after World War II, as they believed that there was one more layer in the original lighthouse design.

After ACE students completed the virtual reconstruction by using Revit (a building information modelling software), the CS students build upon their research outputs and created a metaverse (Figure 4.1). The CS students then conducted research on the interior photos of Waglan Island Lighthouse and recreated also the interior of Waglan Island Lighthouse. In addition, the CS students created 3 checking points in the metaverse to introduce briefly the history of Waglan Island Lighthouse.

## Metaverse and Virtual Reconstruction of 1893 Waglan Island Lighthouse by CS and ACE



Figure 4.1: Metaverse of 1893 Waglan Island Lighthouse created by CS students

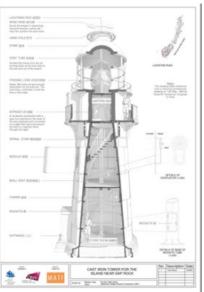


Figure 4.2 Virtual Reconstruction of 1893 Waglan Island Lighthouse created by ACE students

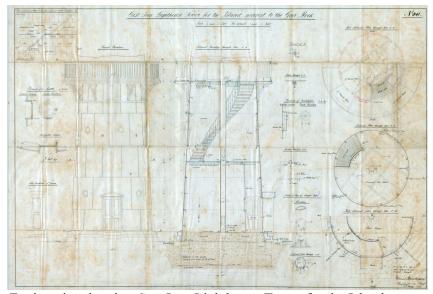


Figure 4.3: Engineering drawing Cast Iron Lighthouse Tower for the Island nearest to the Gap Rock hand-drawn by DMH dated 15th March 1887

The second group of students (COM) synthesized the research outputs from ACE students and other primary source materials, and produced a documentary (in 4 languages, Cantonese, Mandarin, English and Japanese) on the history and relationship between Waglan Island Lighthouse, the Father of the Fishermen Charles Thirlwell and the fishermen in Hong Kong. Figures 5.1 - 5.4 are the highlights of oral histories about DMH and Charles Thirlwell collected in the documentary.

## **Documentary in 4 languages by COM students**



Lighthouse Memories: Waglan Island Lighthouse (Cantonese)

Link:

https://www.cityu.edu.h k/cityvod/video/play/LI B/lighthouse\_memories Waglan\_cn.aspx



Lighthouse Memories: Waglan Island Lighthouse (Mandarin) Link:

https://www.cityu.edu. hk/cityvod/video/play/ LIB/lighthouse\_memo ries Waglan.aspx



Lighthouse Memories: Waglan Island Lighthouse (English)

Link:

https://www.cityu.edu. hk/cityvod/video/play/ LIB/lighthouse\_memo ries\_Waglan\_en.aspx



Lighthouse Memories: Waglan Island Lighthouse (Japanese) Link:

https://www.cityu.edu .hk/cityvod/video/pla y/LIB/lighthouse\_me mories\_Waglan\_jp.as px

## **Primary source Materials (Highlights of Oral Histories Collected)**



Figure 5.1: Charles Thirlwell's widow Mary Leung-Thirlwell recollecting memories of Charles Thirlwell and the local Fishermen



Figure 5.3: DMH's 5<sup>th</sup> generation grandson James Somers Eve recollecting the legacies of DMH in constructing lighthouses along the coast of China



Figure 5.2: Local Fishermen Lai Tim recollecting the relationship between his father and Charles Thirlwell on Waglan Island



Figure 5.4: Charles Thirlwell's granddaughter, Olivia Thirlwell, was singing the Dragon Boat Song (in Tanka dialect) of which Charles Thirlwell was the lyricist

The third group of students (EE) had created a schematic design of a contact-less RFID sensor model guidance (Figure 6). The functionality is that when the visually impaired will scan the QR code near the exhibit, and then the system will increment the people count and direct the visually impaired's phone to our web app. Once the web app is opened, an audio recorded instruction will be played to instruct them how to touch the Waglan Island Lighthouse model and its history.



Figure 6: Contact-less RFID sensor model guidance created by EE and LT students

The role of the engaged librarian here is to be a *Partner*. One of the major duties of becoming a Partner is to participate in research. Although the engaged librarian is unfamiliar with all the software used by the students, his role was to remind that the students understand the responsibilities that come with entering the scholarly conversation, one of which to ensure that quality of the digital story-telling outputs created by the students were in a scholarly and professional standard (ACRL Framework threshold concept: Scholarship as Conversation). This involves the engaged librarian to proofread, and the repeated discussion of ideas, sometimes even debates, between the engaged librarian and students.

Also, the digital story-telling outputs of these three groups of students varied, depending on their respective disciplines and expertise. As such, these three groups of students can learn from each other and are able to understand that different ways of information dissemination with different purposes are available (ACRL Framework threshold concept: Information Creation as a Process).

### **Stage 5: Exhibitions and Publications**

Collecting students' digital storytelling outputs, LHRC collaborated with Hong Kong Maritime Museum ("HKMM") to host exhibitions and public seminars and academic symposium on Waglan Island Lighthouse in 2021 with more than 3,000 physical visits amid COVID-19 pandemic.<sup>5</sup> The exhibition at HKMM invited the CityU students, scholars and the community to attend sharing sessions and academic symposium (Figure 7.1 and 7.2).



Figure 7.1: Public audience at HKMM were watching the documentary "Lighthouse Memories: Waglan Island Lighthouse" and having a sharing session



Figure 7.2: A student was explaining the 3D model and landscape model of Waglan Island Lighthouse to a community member at HKMM

For these students, presenting their research findings in sharing sessions and academic symposium and have their own voices to be heard in the community are rarely encountered forms of scholarly and research conversations. As such, student researchers from different disciplines do not see themselves just consumers of information, but also contributors to scholarship (ACRL Framework threshold concept: Scholarship as Conversation).

The role of the engaged librarian here is to be a *Partner*. Another major duty of becoming a Partner is to assist in disseminating the students' digital story-telling outputs. The engaged librarian assisted the students to write a proposal to obtain funding and collaborate with HKMM, in order to hold an exhibition showcasing the primary source materials they collected and their digital story-telling outputs, as well as holding sharing sessions and academic symposium.

During the exhibition, the students' efforts and in particularly the story-telling outputs were being recognised by the public and a professional publisher Chung Hwa Books. The publisher invited the students and previous LHRC students to co-write an academic peer reviewed book on lighthouse heritage in Hong Kong and Macao. This book was published in June 2023. The engaged librarian served as an editor to proofread and advise the quality of their works when disseminating their digital story-telling outputs in the book. Sense of belonging is about 'valued involvement' which includes feeling valued and 'fit' which is an individual's perception that they complement the environment (Ross, 2002). When the students' digital story-telling outputs based on cultural heritage and the local history and Genealogy materials are being widely recognised and valued by the public, the students will be more willing to engage and continue to create digital renderings with reference to these valuable local history and Genealogy materials, which in turn will reinforce their senses of belonging to the community.

### 5 POSSIBILITIES IN THE FUTURE

The students have collected many valuable primary source materials during Stage 2: Collect Evidence of the research cycle. Their digital story-telling outputs were supervised by librarians and faculties and required to be based on the evidence collected. As such, these outputs are also of high academic value and testimonies of how the students from different disciplines can demonstrate their senses of belonging to the community by leveraging their expertise and skills, and deserved to be preserved and disseminated in the community. LHRC, however as a pilot project, has not yet developed a complete system of archives and preservation for these digital story-telling outputs and primary source materials. Currently, LHRC preserved these digital story-telling outputs and the primary source materials in a hard disk. In addition, documentaries are uploaded to CityU's Video-on-Demand system, so as to enhance their visibility. Other digital story-telling outputs however has not yet been uploaded to the CityU Library portal as an institutional wide archive and preservation system has not yet been developed.

These digital story-telling outputs and primary source materials collected are local history and genealogy materials, which are special collections in a university library. In Hong Kong, due to the restraint of land and human resources, librarians often faced with the challenges to defend the relevance and value of these special collections and the resources it demands; librarians will need to articulate the centrality of these collections to the university's missions, one of which is teaching and learning (Overholt, 2013). The role of an engaged librarian here is to be *Visionary* "who researches problems, engineers solutions, and coordinates new ways of meeting his constituencies' needs."

The educational value of these local history and genealogy materials is best demonstrated by librarians and faculties to use these collections as materials to train students' digital story-telling skills and more importantly their senses of humanistic care and sense of belonging to the community (which are the necessary qualities as global citizens).

In 2005, CityU Library began the Outstanding Academic Papers by Students ("OAPS") together with 11 universities in Asia and University of Southern California. Through close collaboration with academic departments, the academic libraries showcased excellent students' research resulting from meaningful engagement with research materials and the breadth and depth of students' scholarship, creativity and writing skills (University of Southern California Libraries, 2014). The core value of OAPS is that students' excellent research outputs should not remain in private domain and are capable of being valuable treasures for other students or researchers in the future.

Yet, the existing OAPS system was designed only to collect students' outstanding works in textual format. With the advancement of technology, the digital formats of students' outstanding works are now becoming various which include for example audio, documentary, architectural drawings, metaverse, 3D models and sensors (all of which the file types are different). The libraries should consider to improve the OAPS system to embrace the digital shift. There are issues that should be considered when improving the OAPS system which includes organisation and description of data, discovery tools, measuring impact, linking/interoperability, cost/funding, intellectual property rights, data management, data preservation and format migration (Hill et al., 2017).

Social media can sometimes be an effective tool to facilitate the sharing and dissemination of content, crowdsourcing of historical information and the community's own sense of civic engagement and pride (Davidson & Reid, 2020). But more importantly is the librarians' shift of mindset, from collection-focused to engagement-focused, and willing to take a more proactive roles in reaching out to the community and curate the students' digital story-telling outputs.

## 6 CONCLUSION

There is a general misconception that local history and genealogy materials are distant or even irrelevant to nowadays society. Librarians should see this as an opportunity to render these collections more relevant by enhancing their applied educational value in engaging students to enhance their information literacy, as ACRL Framework for Information Literacy suggests "librarians have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum for information literacy, and in collaboration more extensively with faculty" (ACRL, 2015, p.2).

LHRC's 5-stage student learning engagement research cycle model is a good example of how students can conduct interdisciplinary research on cultural heritage and local history and genealogy materials, and make use of digital story-telling to communicate the historical information about the past to modern society. When going through the research cycle, students are afforded the support from librarians and faculties to train their information literacy skills and to rescue the past from irrelevancy by packaging into various types of digital medias so as to make it easier to be engaged with.

Due to its lower usage rate compared with STEM collections, academic librarians may be faced a challenge to justify the resources of continuing the investment in these local history and genealogy materials. It is advocated that continuous investment into these local history and genealogy materials can yield high return continuously to the university's teaching and learning activities and to our society at large as long as students from different disciplines are engaged to use these local history and genealogy materials, continue to conduct knowledge transfer by making original and meaningful discoveries and inspiring future generations.

As demonstrated in Section 3, Waglan Island Lighthouse was well protected but not well preserved and conserved. Nowadays it is difficult for the general public, if not the government, to obtain the original station plan of Waglan Island Lighthouse (which includes its staff quarter and other infrastructures such as water tanks). With the engaged librarian's research support, ACE students were able to access both the hand-drawn station plans of Waglan Island Lighthouse and its twins Lao-Tieh-Shan Lighthouse dated 3<sup>rd</sup> March 1894. The buildings on the station plan of Waglan Island Lighthouse were numbered but without a legend. Bearing in mind that Waglan Island Lighthouse and Lao-Tieh-Shan Lighthouse were twins, the ACE students compiled a legend of the station plan of Waglan Island Lighthouse by referring the legend of the station plan of Lao-Tieh-Shan Lighthouse and cross-checked it with the station plan of Waglan Island Lighthouse. This finding is significant not only to the students' virtual reconstruction, but possibly to the case studies of sustainability on a remote island and conservation and revitalization of Waglan Island Lighthouse heritage in the future. As such, students' research outputs are capable to be translated into social or economic use, instead of merely a graded assignment. The following Figure 8 is their research outputs:

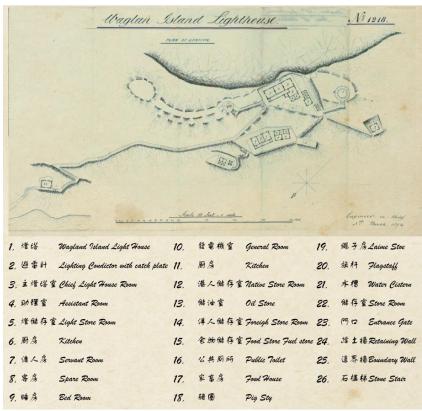


Figure 8: Station Plan of Waglan Island Lighthouse hand-drawn by DMH dated 3rd March 1894 (top) and the legend are the research results of the ACE students (bottom)

Furthermore, the CityU students' digital story-telling outputs can continue to inspire future generations. In 2023, the CityU students conducted a talk about lighthouse heritage in Hong Kong (including Waglan Island Lighthouse) with a group of primary school students in The Salvation Army Tin Ka Ping School. After the talk, the primary school students took what they learnt during the talk and created two story boards with an attempt to have their voices heard about how to tell and preserve the stories of lighthouse heritage in Hong Kong (Figure 9).



Figure 9: Boards introducing the lighthouse heritage in Hong Kong (including Waglan Island Lighthouse) which were created by The Salvation Army Tin Ka Ping School

The CityU students were heavily impressed on how their digital story-telling outputs themed on lighthouse heritage and local history and genealogy materials can create an impact to the

community. As such, their senses of belonging to the community is reinforced and the engaged librarian is proud to be the prime facilitator in the process. It is hoped that LHRC will continue to engage more students from different disciplines and community to participate in conducting focused research and creating digital story-telling outputs on lighthouse heritage along the coast of China and beyond, so that the local history and genealogy materials will continue to grow and its value continue to appreciate overtime.

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