

Sharing the Past: the Library as Digital Co-design Space for Intergenerational Heritage Preservation

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Abstract—This poster presents the “Intergenerational Participatory Co-design Project,” an interdisciplinary initiative at the University of Hong Kong for facilitating collaboration among different age groups to design digital historic preservation. This project reimagines the global challenge of aging as an opportunity to enhance cultural heritage when older and younger members of society share their unique knowledge and perspectives. Over the course of the 2019-2020 academic year, four mixed-age groups co-designed a variety of innovative digital products to support the preservation and appreciation of Hong Kong’s historic culture. The guiding principle of the project was to engage the participants as co-creators of both their own learning outcomes and learning processes. The participants also had opportunities to develop skills with new technologies for documenting, preserving, and presenting cultural heritage. The University of Hong Kong Libraries served as the central space (both physically and virtually) for facilitating these activities, in partnership with the University’s Sau Po Centre on Ageing, the Common Core program, and the Faculty of Education. This project can serve as a model for how libraries can support local communities to digitally embrace an aging society for enhancing cultural heritage.

Keywords—*Intergenerational Collaboration, Cultural Heritage Preservation, Digital Humanities, Aging Society*

I. INTRODUCTION

Hong Kong faces various challenges associated with an aging population, including a widening generation gap that leads to the perception that younger and older people remain distant from each other [1]. This crisis in intergenerational solidarity undermines the psychological well-being and social development of all generations. The “Intergenerational Participatory Co-design Project (IPCP)” aimed to bridge this gap by encouraging communication between different age groups within an equal and collaborative environment, where mixed-age groups worked together to set learning goals, assign roles, and complete shared tasks with the support of library and academic staff at the University of Hong Kong (HKU). Each group of participants built a digital product focused on the historic preservation of some aspects of Hong Kong’s cultural heritage. The goal of the IPCP was to foster understanding and appreciation among participants of different ages towards reducing prejudice and facilitating intergenerational solidarity.

This project also aimed to foster a healthy, participative, and active lifestyle among senior citizens, following the concept of ‘Active Aging’. Research clearly indicates that older adults who remain engaged participants in social and learning activities can better sustain health and well-being, thus improving quality of life [2].

Libraries are evolving and adapting to the challenges of 21st century user needs, providing opportunities to experiment with new possibilities, such as engaging with innovative educational technologies and public outreach. The HKU Main Library recently renovated parts of two of its floors to install new facilities ranging from virtual reality (VR) and artificial intelligence (AI) workstations to makerspace equipment such as 3D printers and scanners. This opened an opportunity for the HKU Libraries to serve as an enabling partner for hosting the IPCP as part of the university’s wider research focus on Geriatric Science and Gerontechnology – along with efforts to raise awareness and engagement of undergraduate students in these topics. This initiative also follows recent practice of involving community stakeholders in the co-design of urban projects (see for example: [3]).

The concept of *participatory co-design of learning* seems ideally suited to addressing the specific challenges of an aging society. This approach involves two levels of design – the design of the learning structure and processes, as well as the design of the end-product or innovation that the learning structure and processes support. Participatory co-design, therefore, requires significant engagement from a team while simultaneously providing space and time for team interaction – all of which should enable the development of deeper collaborative relationships among participants. The IPCP’s deployment of this concept was inspired by a participatory co-design course offered at the University of Washington’s Information School, in partnership with local libraries [4].

II. PROJECT DESIGN PROCESS

The IPCP took place from the fall semester of 2019 through the spring semester of 2020, thus facing the unique challenges of this unique year such as an inability to meet in person. The project recruited a few dozen participants from three age cohorts: grade 9 high school students (aged ca 15), university

undergraduate students (ca 19-23), and senior champions (50+). The participants learned about design-thinking concepts and then divided themselves into four working groups based on their interests and expertise. Each group was intentionally balanced between participants from each of the three age cohorts. The two semesters were treated as separate project cycles for developing a project in each semester from design idea to finished prototype in about twelve weeks. The participants in each group collaboratively developed their own learning objectives while designing a project for using educational technologies to preserve and promote Hong Kong's local culture, history, and (in)tangible cultural heritage. Participants saw these topics specifically as being of interest to everyone involved in the projects, thus holding the potential to help bridge the gap between the older and younger generations.

During the first semester (fall 2019), all four groups decided to work together on one common project – the design of a boardgame and VR experience about Hong Kong's history and heritage. The groups met in the HKU Main Library or in an online platform hosted by the Libraries. During the second semester (spring 2020), the groups decided to work on three separate cultural heritage topics from around Hong Kong (see Table 1 for group composition and topics). The first two groups (1a and 1b) worked on the same topic – a study of heritage at a historic salt-making village on Yim Tin Tsai Island. Group 2 learned about the time-honored Martial Art of Wudang Tai Chi from experienced practitioners. Group 3 explored the history of Shanghai Street – an old neighborhood known for its local food culture and vendors.

TABLE 1. GROUPS AND PROJECTS FROM SPRING SEMESTER 2020

Group	Members	Topic	Output
1a	-2 High School Students -2 Undergraduate Students -2 Seniors	Yim Tin Tsai Island	A website with videos made by the participants to exhibit different places of interest on the island
1b	-2 High School students -2 Undergraduate Students -2 Seniors		
2	-2 High School students -4 Undergraduate Students -2 Seniors	Wudang Tai Chi	3D motion-capture of Tai Chi practitioners
3	-2 High School Students -3 HKU Students -1 Senior	Shanghai Street	Augmented Reality phone App for visitors

III. RESULTS

A. Digital Heritage Products

The primary tangible results of the second semester's co-design work were various innovative applications of educational technologies to preserve and present these local cultural heritage topics. The HKU Libraries provided equipment and expert guidance for their deployment. Groups 1a and 1b created a public website to showcase mini-video documentaries about past salt-production and life on the island. Group 2 practiced Tai Chi together and experimented with preserving this Martial Art form digitally through 3D motion capture. The HKU Libraries helped record one of the senior members of the group demonstrating traditional movements and the other group members tried to learn these movements from the resultant

videos. Group 3 developed an augmented reality smartphone app to provide information on selective sites for visitors to this street known for iconic food and traditional handicraft vendors.

B. Participant Feedback

To assess the impact of this project on participants' learning experiences and exposure to new technology, 12 one-on-one interviews were conducted with selected participants at the conclusion of the project in August 2020. Interviewees were invited to share their experiences in terms of inter-generational collaboration, technological knowledge acquisition, library services, and perceptions of local cultural heritage. Interviewees were selected from all age cohorts with an even distribution across project groups, along with one library staff member. The results indicate that the IPCP had positive impacts on the participants, with some members expressing increased understanding (empathy) by learning to appreciate the perspectives and strengths of people from other generations. The findings also suggest that participants developed lower anxiety about learning and using new technologies.

C. The Library's Role

The changing role of libraries in society presents many opportunities – particularly around community-building activities, education, and digital information sharing. Thus, the HKU Libraries served as the ideal setting for facilitating the IPCP. The Libraries made unique contributions to this project along several dimensions. First, as a centralized university unit, they facilitated interdisciplinary learning and research through collaboration with multiple other university departments. Second, the Libraries maintain expertise in digital technologies for education and are well positioned to recognize and respond to the specific digital literacy training needs of students and community members with diverse backgrounds. The Libraries are building flexible learning spaces intended for this specific purpose, but can also support virtual and blended learning as needed. Third, the Libraries support knowledge management – from the development of data management plans, to the coordination of digital scholarship services, to the long-term preservation and sharing of the data upon completion of the project. The IPCP data have been archived and made publicly available by the Libraries at this website: [https://datahub.hku.hk/IPCP\[5\]](https://datahub.hku.hk/IPCP[5]).

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