

Chapter 1: Introduction

1.1 Project Background

The purpose of this research was to investigate how the knowledge of digitisation practices can be transferred from a large organisation to a small one. This was done by applying the recognised digitisation expertise of the National Library of Wales (NLW) to a smaller sample collection in the Ceramic Collection & Archive (CCA) at Aberystwyth University. The transfer was completed through both technical and theoretical training.

The person specification in the advert for this research project indicated that the supervisors were looking for someone who had interest or experience in art, ceramics, archiving or website design. After graduating from Aberystwyth University with a BA (Hons) in Art History the researcher had work experience with the CCA and undertook archival and website tasks.

1.1.1 KESS

The research was funded under the Knowledge Economy Skills Scholarship (KESS) programme that funds Research Masters (MPhil) and Doctoral (PhD) work. KESS, in turn, is part-funded by the European Social Fund through the European Union's Convergence Programme. The Convergence Programme attempts to develop areas of the economy in certain locations, in this case the Digital Economy of Ceredigion, Wales. The KESS programme runs from 2009 until 2014 and provides over 400 PhD and Masters places.

As part of the scholarship, students must study postgraduate skills courses and undergo a period of work experience in a partner institution. The partner institution can be any type of business but a continuing benefit to the community from the

work must be shown. The partner institution and the relevant University both contribute financially to the scheme.

The funding provided by KESS on this MPhil project, which took place from October 2012 to December 2013, is highlighted in Table 1. An explanation of how the KESS budget was spent on this project is provided in Chapter 6: Discussion.

A student stipend	Approx. £9,800
Travel/conference costs	£1,000
Equipment costs	£1,000
Consumables costs	£2,000
Academic travel costs	£200
Skills development and training costs	£500

Table 1. KESS funding budgets for this research

1.2 Reasons for Research

As of 2012, the European Social Fund has indicated the county of Ceredigion in Wales as a “convergence region” in need of economic development. The Welsh Government has specified four priority sectors of the economy for development, one of which is the Digital Economy, for which this MPhil project is intended.

The Ceramic Collection & Archive (CCA) undertakes limited digitisation activities but it hopes to engage further in digitisation in response to the need to preserve materials, widen access to the collection and keep up with rapid developments in technology within the museum sector.

In particular, the CCA holds a vast amount of material related to the International Ceramics Festival (ICF). This biennial festival has been held in Aberystwyth, Ceredigion, since 1987 and there has been increasing amounts of recording over the

years. Recording began primarily with photography but video was increasingly used as home video equipment became more available. In addition, audio lectures from the festival have been digitised. In the early 2000s festival material began to be recorded in a born-digital format, for example, through the use of digital cameras.

By acquiring digitisation knowledge from the National Library of Wales and applying it to the CCA it is hoped the CCA will be able to use the ever expanding collection of digital and analogue ICF material and to undertake long-term digitisation work for preservation and access to its materials, as well as to promote the ICF as an event, which in turn will develop the Digital Economy of Ceredigion.

1.3 Aim

The aim of this research was to understand how the different features of the digitisation process could be transferred from a large institution, the National Library of Wales, to a smaller institution, the Ceramic Collection & Archive at Aberystwyth University. The various observations and techniques learned at the NLW were applied to a smaller special collection in the CCA. This included digitising and writing metadata for material from the International Ceramics Festival collection and producing guideline documents for use in digitisation and metadata work.

1.4 Objectives

The main steps completed to achieve the results in this research were as follows.

- Acquire the practical knowledge of how to carry out a digitisation project, including metadata writing, by digitising materials from two collections at National Library of Wales (NLW): the Welsh Experience of World War One (WEWW1) collection and the Merched y Wawr Llanfarian (MyWL) collection to be included in the People's Collection of Wales. The two collections demonstrate different approaches to digitisation.

- Acquire practical knowledge on digitisation and metadata by attending and assisting in digitisation/metadata workshops run by staff from People's Collection Wales (PCW) for members of the public.
- Acquire practical and theoretical knowledge of digitisation work by talking to staff at NLW about aspects of digitisation, such as workflows, benchmarking, scanning, preservation and licensing.
- Acquire practical and theoretical knowledge of digitisation work by using the KESS budget to attend informative events.
- Acquire theoretical knowledge of digitisation work by researching relevant literature, including an audited module run at Aberystwyth University by supervisor Lucy Tedd, entitled, "Digital Information: Discovery to Delivery."
- Acquire theoretical and practical knowledge on website design by attending a short course in web design.
- Transfer the acquired knowledge to the Ceramic Collection & Archive (CCA) using material from the International Ceramics Festival (ICF) collection.

Achieve this by:

- Developing digitisation guidelines, metadata guidelines and a metadata spread sheet for use in digitisation work.
- Developing a Project Outline document for the digitisation of approx. 260 pages from programmes from the 1993-2011 ICF collection.
- Managing and instructing undergraduate students in the digitisation and metadata writing of approx. 260 pages from programmes from the ICF collection 1993-2011 in order to test and to learn from usability and facilities.
- Selecting one digitised programme as a prototype, converting it to a PDF file and show examples of how it could be used on the CCA website.
- Writing metadata in a metadata spread sheet for approx. 86 born-digital videos from the 2011 ICF collection.
- Developing a Digitisation Strategy document for the CCA.

- Instructing the CCA Curator, Professor Moira Vincentelli, and other CCA staff by holding meetings, presentations and workshops and by consulting on current and future digitisation work, including a grant application for digitisation work.
- Keep a blog on Culture Colony (www.culturecolony.com) updating the progress of the MPhil in order to permeate the knowledge to the wider community in Wales (see section 2.4 for more information)

1.5 Scope of Research

In the time available it was decided the focus would be on the 2011 ICF, as well as the festival programmes from 1993 to 2011, as this was where the material was readily available. The demonstration videos from the 2011 ICF and the programmes would receive the knowledge from NLW through metadata writing and digitisation. Furthermore, this sample of work was considered appropriate and achievable within the time constraints.

This research had limitations placed upon it by:

- The time allowed for the project (October 2012-December 2013),
- The budget available,
- The boundaries of the subject area,
- The availability of technology,
- The CCA being part of a larger institution, Aberystwyth University,
- What digitisation activities could be done within the allowed time in consideration of student availability, and
- Compliance with Aberystwyth University's guidelines for conducting and submitting MPhil work.

It was recognised when the scholarship was granted that there would be gaps in background knowledge in one or more project areas of the chosen candidate. This was addressed by undertaking work experience at NLW, attending digitisation

workshops run by PCW, attending relevant conferences and by reading relevant literature. The KESS scholarship specified that the successful applicant would be a resident in Ceredigion, Wales and he or she would not hold a Masters degree and would be educated up to a Bachelor's degree.

1.6 Methodology of Research

The methodology of the research is highlighted in order to explain how digitisation and metadata knowledge was transferred from NLW to CCA. The research project was implemented in four key stages.

1.6.1 Stage One: Learn

Knowledge on digitisation work was acquired primarily from work experience at NLW by tracking the digitisation process from beginning to end using two collections: the Welsh Experience of World War One (WEWW1) collection and the Merched y Wawr Llanfarian (MyWL) collection. These two collections had been selected prior to the beginning of the work experience using the digitisation policy of NLW and the NLW received the right to have copyright of the materials within the time available for the research.

For the WEWW1 collection the researcher worked with the Digitisation Unit at NLW. A manuscript of approx. 100 pages was paginated by hand with pencil and then scanned using the allocated scanner in the Digitisation Unit. The scanned pages were then adjusted and re-sized to make the digital images suitable for displaying on a website. Following this, approx. 200 photographs from the WEWW1 collection were used to create and input metadata on a computer.

For the MyWL collection of photographs the researcher worked with the People's Collection Wales (PCW) team at NLW. Five meetings were held with MyWL group to go through approx. 280 photographs in order to obtain knowledge for metadata,

such as dates and locations. Between these meetings, the researcher used the scanner in the PCW office to scan the photographs and input the metadata in a spread sheet. Approx. 14 of the 280 photographs were uploaded to PCW website as prototypes due limitations with the PCW website (outlined in section 4.1.4.3).

As well as the practical work undertaken at NLW, knowledge was gained through observing and discussing digitisation work with different staff at NLW. This was typically done by attending scheduled informal meetings and writing notes as well as receiving informative documents on NLW's digitisation and metadata work. The researcher also sat in on one project management meeting for the WEWW1 project and observed PCW run three digitisation workshops for members of the public.

Knowledge on digitisation work was also acquired from sources other than NLW. Theoretical knowledge on digitisation work was gained through literature research and by attending conferences and other events funded with the KESS budget. The researcher audited a module run at Aberystwyth University by supervisor Lucy Tedd, entitled, "Digital Information: Discovery to Delivery." To help understand how a website is created and how digital material can be publically accessed, the researcher attended a Web Design with Dreamweaver course, run by Aberystwyth University Lifelong Learning department, which lasted one week in July 2013. These sources for the acquisition of knowledge on digitisation and metadata were considered the most appropriate within the scope of the research.

Research training was provided through two workshops run by Aberystwyth University and a 2-day workshop run by KESS in order to advise the researcher in how to write and manage the project.

1.6.2 Stage Two: Develop

The main principles of digitisation work were largely acquired from NLW, however this work required adapting before it could be appropriately implemented in CCA and, in particular, implemented on the ICF collection.

Prior to the start of the project, the researcher undertook 3-months of work experience at CCA. This experience, as well as the continued interaction with staff at CCA, provided the researcher with an insight into the operations, history and capability of the CCA. This also allowed the researcher to become more familiar with the equipment available at CCA. In addition, attending the most recent International Ceramics Festival 2013 (28th-30th July 2013) allowed the researcher to observe how material on the festival is recorded and used, as well as perceive the potential users of ICF digital material.

From the work experience at NLW, the workshops run by PCW, the literature research and from conversations with CCA staff it became clear that written guides to digitisation work would be a valuable tool for the CCA. These would be written so that a range of individuals with different learning styles could understand them. One of the main points that came out of the work experience was how the NLW and PCW operate digitisation on different scales and that the PCW's smaller scale was more akin to the capabilities of the CCA. Furthermore, as the CCA is part of Aberystwyth University and is closely connected to the School of Art Gallery & Museum (SAGM), the policies and procedures of these two organisations had to be taken into account.

For digitisation work at CCA, a digitisation guideline was required. This was written under the influence of the work experience with PCW while taking into consideration the equipment available at the CCA.

For metadata work at CCA, a metadata guideline and a template metadata spreadsheet was required. These two documents would accompany one another,

with the template spread sheet relevant for use in all digitisation projects and the guidelines instructing the user in how to complete the spreadsheet.

As stated previously, the PCW's digitisation workflow was deemed more applicable to the CCA, particularly in terms of capabilities. However, the digitisation work of the main Digitisation Unit at NLW also proved to be applicable to CCA. The NLW produces a Project Outline document and a Digitisation Strategy document. The Project Outline is a preparatory document produced before embarking on a digitisation project and it clearly sets out the rules and plans of the project. It is intended for use by project supervisors more than the project workers. The Digitisation Strategy is something of a mission statement about the NLW's dedication to digitisation work as whole institution. After a discussion with staff at CCA it was agreed these two documents would be developed to offer clarification on the CCA's digitisation work and that the Project Outline template can be re-used for future projects.

These developments were considered most relevant for digitisation work at CCA based primarily on work experience at NLW and because they could be developed within the scope of the research.

1.6.3 Stage Three: Apply

Once the digitisation knowledge had been acquired and developed, it was ready to be applied to CCA. Due to time constraints not every item in the ICF collection could receive digitisation work. Therefore, approx. 260 pages of festival programmes from ICF years 1993-2011 were digitised and received metadata. Approx. 86 born-digital videos of demonstrations from ICF 2011 received metadata. These were selected due to their easy availability and the ICF 2011 videos were also selected because they were a complete collection with no gaps and therefore all types of material were available for potential use: born-digital video demonstrations, lectures, and so on.

During the development stage it became clear through discussions with CCA staff that more equipment would be useful. This was because the CCA lacks high-quality hardware and software and because it is located within the SAGM and therefore must share the use of equipment with staff and students. The KESS budget allocated money for equipment, all of which would remain with the CCA at the end of the project, and a Macbook Pro was purchased.

The researcher independently tested the digitisation and metadata guidelines on the festival programme from ICF 2011 using the Macbook Pro and an Epson flatbed scanner. The digital images were stored and had metadata recorded for them in a spreadsheet. This was a thorough test of the guidelines as this was the guide aimed at the users.

Professor Moira Vincentelli, a supervisor to this MPhil, ran a module entitled Ceramics & Collection Interpretation for undergraduate students at the School of Art. As part of assessment for the module, students had to complete a project that involved digitisation and the ICF. After observing the PCW staff run digitisation workshops for members of the public, the researcher acquired useful skills in how to teach digitisation. It was agreed the researcher would give a presentation on digitisation and metadata for the students and CCA staff in order to directly transfer digitisation knowledge. Following this the researcher ran workshops with the students instructing them in digitising festival programmes from the 1993-2011 ICF. In this way the digitisation knowledge was transferred to CCA staff as well as students and the CCA would benefit through receiving digitisation and metadata work on the ICF collection. Students used the guidelines developed by the researcher to digitise the festival programmes and fill in a metadata spreadsheet and the researcher stored their work. The researcher also completed a Project Outline document that was developed in Stage Two. This document outlined the students' project and was entitled: "Digitisation of ICF Programmes 1993-2011." The researcher used the document to monitor the progress of the digitisation and metadata work undertaken by the students.

The researcher independently worked on completing a metadata spreadsheet for demonstration videos from the 2011 ICF, using the metadata guidelines that were developed. The videos were already in born-digital format. The researcher watched 86 demonstration videos at 9-minutes long each and created relevant metadata for each one (see Appendix H for the metadata spreadsheet).

The digital scans and metadata spreadsheets produced through the researcher's work could be applied to the CCA website as a further output for the project. Users of the website could use the metadata when searching for particular terms or phrases and they could view the scanned images and digital videos.

The documents developed in stage two were applied to work in the CCA. This included instructing undergraduate students in undertaking digitisation and metadata work on programmes from the ICF, independently writing metadata for demonstration videos from the 2011 ICF and instructing staff from CCA on digitisation and metadata. These applications of the knowledge were considered most appropriate within the scope of the research.

In addition to these applications of the documents developed, the researcher frequently met with CCA staff to discuss the progress of the work and in doing so transferred knowledge directly. The researcher worked with CCA staff at the ICF 2013 to film and conduct interviews with potters at the festival. Prior to the festival, the CCA established a need for a recording device to conduct interviews that could subsequently receive metadata and be published online. The researcher invited Professor Vincentelli to one of the PCW's digitisation workshops during which the PCW staff demonstrated the use of a handheld recording device for interviews. After receiving positive feedback on the devices from PCW staff the remainder of the KESS equipment budget was used to purchase a handheld video and image recorder that was used at the ICF 2013 to conduct interviews.

1.6.4 Stage Four: Review

At this final stage, the acquisition and application of digitisation knowledge was discussed and evaluated. The key links between the acquisition of knowledge, the application of knowledge and the literature research was emphasised. It was important to ensure those other than the researcher could understand the written guides to digitisation and metadata. Therefore, the guides were tested on the students during their digitisation project and the success of the guides was measured against the quality and accuracy of the students' work. The students were asked to complete a self-evaluative questionnaire on their knowledge of digitisation work before and after their project. The questionnaire developed out of a discussion with supervisor Professor Lorna Hughes who suggested receiving some feedback and a pilot questionnaire was not necessary because the sample was small. The guides were also given to the CCA staff to read and offer feedback. The success of the Project Outline document for the "Digitisation of ICF Programmes" project was judged on whether or not the goals set out in the Project Outline were met. The Digitisation Strategy document was given to CCA staff to read and offer feedback. Recommendations for future digitisation work at CCA will be made.

1.7 Management of Project

For this project the primary academic supervisor was Professor Moira Vincentelli, Curator of the Ceramic Collection & Archive and Professor in the School of Art, Aberystwyth University. The secondary academic supervisor was Lucy Tedd, formerly a lecturer in the Department of Information Studies, Aberystwyth University. The company supervisor from the National Library of Wales (the KESS industry partner on this project) was Professor Lorna Hughes, University of Wales Chair in Digital Collections.

The researcher met with Moira Vincentelli on a weekly basis to discuss the progress of the work. Every three months the researcher met with all three of the supervisors to discuss the progress of work, future plans for work and to produce a quarterly report document. Between these meetings, timesheets were required from everybody involved.

The 30 credit Postgraduate Skills Development Award for the KESS MPhil was achieved by completing the events highlighted in Table 2.

Event	Provider/Location	Duration	Date(s)
Graduate workshop research training	Aberystwyth University	4-days	October 2012 and June 2013
Work experience placement	National Library of Wales	3-months with on-going work upon completion	November 2012 – January 2013
Digitisation training workshops	With People’s Collection Wales in Cardigan, Llangrannog and Aberystwyth	3-days	November – December 2012
Conference on “Linked Data”	National Library of Wales	1-day	November 2012
Conference on “Digital Preservation: what I wish I knew before I start”	With the Digital Preservation Coalition at University College London	1-day	January 2013
KESS Graduate School	Gregynog Hall, Powys	2-days	March 2013
Conference on “bwFLA – a Functional Approach to Digital Preservation...”	National Library of Wales	1-day	March 2013
Communicating with Confidence workshop	Aberystwyth University	1-day	June 2013
Short course: “Web Design with Dreamweaver”	Lifelong Learning, Aberystwyth University	7-days	July 2013
International Ceramics Festival 2013	Aberystwyth Arts Centre, Ceramic Archive & Collection	3-days	July 2013
Attended undergraduate module “Ceramics and Collection Interpretation” and ran workshops	School of Art, Aberystwyth University	4-months	February – May 2013

Table 2. Events completed for Postgraduate Skills Development Award

1.8 Structure of Thesis

An introduction to the nature of the project is provided in Chapter 1. An explanation of the background to the partner organisations involved in this project is offered in Chapter 2. A review of relevant literature is given in Chapter 3. An explanation of how the researched digitisation knowledge was acquired is provided in Chapter 4. The applications of the acquired knowledge are shown in Chapter 5. A discussion of the acquisition and application of knowledge is given in Chapter 6 and the conclusions drawn from them are given in Chapter 7. Following the chapters there is a bibliography and appendices. The page numbers progress uninterrupted throughout the thesis and chapters and sections are numbered sequentially. All chapters are written in third-person with the exception of Chapter 4, which is written in first-person. This was a conscious decision by the researcher so as to best describe the experiences of acquiring knowledge.

1.9 Chapter Summary

This thesis is structured in 7 chapters with a bibliography and appendices. This KESS-funded MPhil aimed to understand how the different features of the digitisation process could be transferred from the National Library of Wales to the Ceramic Collection & Archive.

The research was implemented in four stages: (1) learn, (2) develop, (3) apply and (4) review. For stage 1, practical and theoretical knowledge was acquired through work experience at NLW and research. For stage 2, the knowledge led to the development of instructive guidelines and useful documents on digitisation work. For stage 3, the knowledge was then applied to the CCA by using the developed documents to undertake digitisation work on a special collection. For stage 4, the transfer of the knowledge was discussed and evaluated.

The researcher had frequent contact with the CCA in order to achieve a direct transfer of digitisation knowledge. The researcher used the KESS budget to purchase equipment and attend events so as to acquire and apply digitisation knowledge. The research has understandable limitations but project management was ensured through regular meetings and the production of timesheets.