

DIGITAL COLLABORATION AND EDUCATIONAL RESOURCES: NATIONAL LIBRARY OF SCOTLAND AND
EDUCATION SECTOR CASE STUDY

AMANDA BOWIE

201889808

This dissertation was submitted in part fulfilment of requirements for the degree of MSc Information and
Library Studies

DEPT. OF COMPUTER AND INFORMATION SCIENCES

UNIVERSITY OF STRATHCLYDE

Word count: 21,995

AUGUST 2019

DECLARATION

This dissertation is submitted in part fulfilment of the requirements for the degree of MSc of the University of Strathclyde.

I declare that this dissertation embodies the results of my own work and that it has been composed by myself.

Following normal academic conventions, I have made due acknowledgement to the work of others.

I declare that I have sought, and received, ethics approval via the Departmental Ethics Committee as appropriate to my research.


I give permission to the University of Strathclyde, Department of Computer and Information Sciences, to provide copies of the dissertation, at cost, to those who may in the future request a copy of the dissertation for private study or research.

I give permission to the University of Strathclyde, Department of Computer and Information Sciences, to place a copy of the dissertation in a publicly available archive.

Yes No

I declare that the word count for this dissertation (excluding title page, declaration, abstract, acknowledgements, table of contents, list of illustrations, references and appendices is

I confirm that I wish this to be assessed as a Type 1 3 4 5 Dissertation

Signature: 

Date: 11/08/2019

ABSTRACT

This research is a case study which examined the National Library of Scotland's *Learning Zone*, an educational resource aimed at teachers, learners, and parents. The resource is the result of a digital collaborative project between the National Library of Scotland and the education sector to create resources to enhance and support Scottish primary and secondary education. This research sought to investigate how this collaboration functions and if Scottish teachers perceive any value in this resource.

Utilising the concept of a collaboration continuum, derived from the existing body of literature on evaluating collaborations, this research evaluated the collaborative work by the National Library of Scotland to understand if they were truly collaborating within the definitions posed by existing research. Through interviews with NLS staff and Scottish educators, this case study provides insight into the perceptions of value in this collaboration and the role of the National Library of Scotland in supporting education.

This research found that, whilst the specific content held on the *Learning Zone* received mixed response from educators interviewed, the collaboration itself and the idea behind the resource were perceived as valuable by all involved. Whilst the resource was not consistently linked to Curriculum for Excellence, it was supportive of the learning theories utilised, Social Constructivist Theory and scaffolding, and was perceived as valuable for Scottish education,

Acknowledgements

This research was greatly aided by the help and advice of my supervisor, Prof. Steven Buchanan, and course organiser, Dr. Diane Pennington. Additionally, I would like to thank the National Library of Scotland, The Scots Language Centre, The Scottish Association for Teachers of History, The General Teaching Council of Scotland, and Education Scotland for helping to promote my research and recruit participants.

Table of Contents

Chapter 1: Introduction	1
1.1 Research Problem.....	1
1.2 Research Context.....	1
1.3 Research Aims & Objectives	3
1.4 Research Questions.....	3
1.5 Methodology	4
1.6 Dissertation Structure.....	4
Chapter 2: Literature Review	5
2.1 Defining Collaboration	5
2.2 Reasons in support of Collaboration.....	7
2.3 Digital Collaboration, and the Library, Archive, Museum Convergence	10
2.4 Digital Education Resources and the Education Sector	13
2.5 Curriculum for Excellence	15
2.6 The National Library Context.....	16
2.7 Chapter Summary	18
Chapter 3: Methodology.....	19
3.1 Chapter Overview	19
3.2 Research Context.....	19
3.3 Literature Review	19
3.4 Research Methods.....	20
3.5 Interview Design	22
3.5.1 Educator Interviews.....	22
3.5.2 NLS staff Interviews	23
3.6 Data Analysis.....	25
3.7 Ethics	26
Chapter 4: Findings	28

4.1 Chapter Summary	28
4.2 Demographics.....	28
Table 1: Teacher demographics	29
4.3 NLS staff interviews findings	30
4.3.1 Collaboration terminology.....	30
4.3.2 Creating the Learning Zone	30
4.3.3 Risk Sharing and authority	31
4.3.4 Reputation and library of last resort.....	32
4.3.5 National and local collaboration.....	33
4.3.6 Promotion and evaluation	34
4.3.7 Library, Archive, Museum convergence.....	34
4.4 Educator Interview Findings.....	35
4.4.1 Educator Sample	35
4.4.2 Perceived benefits for teachers	36
4.4.3 Difficulties with signposting	37
4.4.4 Linking with Curriculum for Excellence.....	38
4.4.5 Promotion and outreach.....	39
4.4.6 Role and reputation of the NLS.....	40
4.4.7 Library sector in education	40
4.4.8 Value and fluidity of resources	41
4.5 Chapter Summary	42
Chapter 5: Analysis.....	43
5.1 Collaboration vs Cooperation	43
Table 2: Defining Characteristics	43
5.2 Awareness of Learning Zone	44
5.3 Perceptions of value.....	47

5.4 Chapter summary	49
Chapter 6: Recommendations and Conclusions	52
6.1 Recommendations	52
6.1.1 Relationship Building.....	52
6.1.2 Promotion and Outreach	52
6.1.3 Collaboration Theory	53
6.1.4 Curriculum for Excellence.....	54
6.1.5 Signposting.....	54
6.1.6 Teachers involvement	54
6.2 Limitations and further research	55
6.2.1 Case study limits	55
6.2.2 Small teacher sample	55
6.3 Conclusion.....	56
Chapter 7: Bibliography.....	58
Appendix A: Participant information NLS.....	i
Appendix B: Participant Information teachers	iii
Appendix C: Interview script NLS	vii
Appendix D: Interview script teachers.....	vii

Chapter 1: Introduction

This research is a case study of the National Library of Scotland's *Learning Zone*, a digital educational resource designed through a collaborative project between the National Library and the education sector. This chapter outlines the research problem and rationale to demonstrate why this case study is necessary research. It describes the structure of the research project overall and its anticipated deliverables.

1.1 Research Problem

Collaboration is a common and useful tool for modern libraries who want to reach new audiences, pool resources for more comprehensive services, and to cultivate value added services which promote the institution (Vincenza-Daurio, 2010, p.10). However, the existing literature on collaboration focuses on public libraries, organisational collaboration and non-digital resources. This has left significant research gaps in the national library domain, digital collaboration and larger, cross-sector collaboration. National libraries are particularly engaged in digital collaborations, often with institutions from different sectors, such as museums, archives, sports, film, and education. Existing research within this field is particularly lacking for collaborations between national libraries and education. This dissertation utilises the National Library of Scotland's *Learning Zone* as a case study to begin bridging this identified research gap and evaluates the effectiveness of this collaboration through analysing the perceptions of the resource by both National Library of Scotland staff and Scottish educator's and makes recommendations for best practice in digital collaborations between these sectors.

1.2 Research Context

The National Library of Scotland launched the *Learning Zone* in 2011 as a hub for learners and educators to access expertly curated resources on a range of topics appropriate for Scottish education. However, the perceptions of educators on the value and usefulness of these digital resources have not been previously researched. National libraries in the UK (specifically the National Library of Scotland, The British Library, The National Library of Wales, and The National Library of Northern Ireland) all feature some form of digital educational resources aimed at school teachers. The format of these resources varies from inclusion of PDFs on project ideas in different subject areas, to virtual learning environments (VLE) with resources for a wide range of topics, activities and learning projects. These digital resources are designed to be age-appropriate, useful learning resources in line with national educational standards. The

National Library of Scotland's Learning Zone states it was developed in line with the standards of Curriculum for Excellence (CFE) and often specifies which subjects and outcomes it is designed to meet. The purpose and role of a national library within society has been extensively researched, and the growing importance placed upon education as an integral purpose of national libraries is an observable trend within the existing body of research. Humphreys (1966) defined the seven tasks of the national library to involve: collecting national publications, legal deposit, collecting foreign materials, publishing bibliographies, publishing their catalogue, and creating exhibitions (cited in Stevens, 2016, p.147). Line (1989) highlighted that a national library should represent the specific information needs of the nation, with education and training being cited as a significant information need (p.307). Stevens (2016) identified creating educational resources and activities for young people as a macro-level trend occurring in national libraries worldwide (p.151). Despite the evident trend of education becoming imbedded into the purpose a national library, there has not been sufficient research to analyse the importance of this facet of national libraries role, the impact it has on education, or the benefit of digital collaboration between national libraries and the education sector.

Owed to the location of the researcher and availability of research participants, this dissertation utilises the National Library of Scotland (NLS) as a case study to evaluate the significance and value of digital collaboration. However, further research is similarly needed in a wider context with national libraries. There is no existing qualitative research into the value and perceptions of the NLS *Learning Zone*. Ross (2011) discussed the importance of the *Learning Zone* for education by stating it was providing schools with digital opportunities to understand and access Scottish heritage and culture (p.24). Miller (2014) states that the amount of accessible and age-appropriate formats of the digital resources on Scottish history and culture make the Learning Zone "worth a visit" (p.4). The National Library of Scotland 2015-2020 strategic plan places a strong emphasis upon the role that this *Learning Zone*, and continued support for Scottish education initiatives, plays in the ongoing and future development of the institution. The strategic plan repeatedly states the importance of increasing access to collections to assist "researchers and learners, both young and old", and reducing inequalities that may have previously inhibited access to NLS materials (National Library of Scotland, p.3). The fourth strategic priority of the NLS strategy is "Supporting Learning" (p.7), which the library intends to achieve through: removing inhibitors of access and providing more equitable access to collections; continued support for activity which promotes and supports Scottish economic growth; tailored and specific learning resources to meet the requirements of lifelong learning, continued professional development, and the Scottish

Curriculum for Excellence; and finally, building upon existing services to support Scottish business (p.7). Similarly, the plan also states it helps to “support a successful Scotland” by providing resources to meet the needs of learners of all age groups, continually developing new resources for school education, promoting educational resources to Scottish schools, and collaboration with schools and further education institutions on research (p.10). The strategic plan is explicit in its support for digital collaboration with the education sector, and so the absence of published research into this collaboration is an evident gap. Additionally, this dissertation utilises the extensive discourse on defining collaborations (namely Wood & Gray, 1991; Vincenza-Daurio, 2010; Buchanan et al, 2012; Mattessich & Johnson, 2018) in order to evaluate whether the partnership between NLS and the education sector actually fits the existing definitions of a collaboration as research understands it.

1.3 Research Aims and Objectives

This research project aims to explore digital collaboration between national libraries and the education sector through analysing the perceptions of value on collaboration and digital learning resources.

In order to meet this aim, the following research objectives were developed:

- This research intends to further develop understandings of digital collaboration in national libraries and how national-level collaborations are maintained and organised
- This research will uncover perceptions of the *Learning Zone* to understand the value of utilising educational e-resources
- This project will make recommendations on best practice for national libraries who engage in collaboration with education

1.4 Research Questions

In order to meet these aims and objectives, this project will answer the following research questions:

1. To what degree is the National Library of Scotland collaborating with the education sector, as opposed to cooperating or coordinating?
2. How is the Learning Zone promoted and how aware are teachers of the Learning Zone digital resource?

3. What are the perceptions on the value of digital collaboration between the NLS and education, and the Learning Zone as an educational resource?

These research questions were developed after consideration of the research aims and objectives and are intended to gain a greater understanding of how digital collaboration can positively impact education in Scottish schools.

1.5 Methodology

This research will employ semi-structured interviews with both NLS staff who work on the resource, and Scottish educators. Since the *Learning Zone* encompasses both primary and secondary education in a variety of subjects, teachers to be recruited for interviews have not been narrowed down to a specific school group or subject.

Semi-structured interviews were chosen as the most suitable method for data collection owed to the overlap between the two interviewed groups. There are some questions which will benefit receiving answers from both groups (such as on the perceptions of value of this collaboration) and some topics will benefit having more fluid approaches according to the relevant group. Blandford (2013) notes that semi-structured interviews are most appropriate when the desired data relates to individuals' experiences or perceptions of something (p.23), making it particularly appropriate for this research project.

Owed to this research being a case study of one national library and the potentially limited scope of teachers to participate, the results of this research are unlikely to be generalisable to the global national library context.

1.6 Dissertation Structure

This research study begins with a thorough analysis of the literature relating to collaboration, digital educational resources, the purpose of national libraries, and collaboration within the library sector. Following this literature review, the methodological approach of this research, and how qualitative data was collected and analysed is detailed. This is followed by an analysis of the qualitative data collected via interviews with NLS staff and Scottish educators. The final chapter summarises the findings of this research and provides recommendations for best practice for national libraries engaging in collaborations, the scope for future research and the limitations of this case study.

Chapter 2: Literature Review

This chapter summarises the existing research into collaboration and the library sector. Owing to an existing lack of research into digital collaboration within the national library and education domains, literature was drawn from collaboration discourses in a range of sectors, including business, local community organisations, government organisations and library case studies. This chapter begins by defining collaboration (section 2.1) and discussing the reasons for and benefits of collaborations (section 2.2). This chapter also discusses the library, archive, museum (LAM) convergence (section 2.3), since archives and museums are historically the library sectors closest collaborators, and research into this area provides valuable insight. It then discusses the use of educational digital resources and Social Constructivist Learning theory (section 2.4), Curriculum for Excellence (section 2.5), and ends on a discussion of the role of national libraries (section 2.6).

2.1 Defining Collaboration

In order to study collaboration and evaluate collaborative projects, it is necessary to define what the term describes. Gadjia (2004) reports that the difficulties in defining collaboration affect both research and practice in this field, since evaluating collaboration becomes increasingly complex without a specific and comprehensive definition to compare projects against (p.76). This section will highlight and analyse some of the notable definitions.

Most definitions of collaboration highlight the importance of: sharing resources; an identified problem which the collaboration seeks to solve; and the need for mutually beneficial outcomes. Perhaps the most famous definition is proffered by Wood and Gray (1991), who defined collaboration as “an interactive process” in which “autonomous stakeholders of a problem domain” utilise their individual and shared means and structures, in order to act or make decisions on matters pertaining to the problem domain (p.146). Clark et al (1996, p.196) define collaboration as a dialogue, in which two partners, regardless of their individual research work, can share and discuss their respective work, structures and processes in a mutually beneficial partnership. Clark et al argued that creating a communication between two collaborative partners and allowing external partners opportunities to “understand the work of one another” is the crucial component of any collaboration (p.196). This definition was specifically describing teacher-organisation collaborations in which the educator is burdened

with the extra responsibilities associated with classroom education and unequal shares of responsibility are a common problem. Whilst this definition was created in response to the issues experienced by educators engaging in collaborative projects, it overly simplifies the components of creating an effective collaboration and places too much emphasis on the ability to effectively communicate individual work. Collaborations are complex to construct and maintain since they require allocations of roles, discussion of authority and responsibilities, and complementary skills and investment of effort (John-Steiner, Weber and Minnis, 1998, p.775). All of these elements are essential to effective collaborations,, and so placing the emphasis upon dialogue can be too simplistic and ignores the complex strategising required. In their study of collaboration between libraries, archives and museums, Zorich, Waibel and Erway (2008) defined collaboration as any work in which two or more partners work together through “sharing expertise, information, and resources” in order to pursue a shared goal (p.10). There is broad agreement that a collaboration should be a mutually beneficial enterprise and involve mutual interest in the identified problem domain (Wood and Gray, 1991, p.161; Buchanan et al, 2012, p.340; Mattessich and Johnson, 2018, p.5). Whilst all of these definitions of collaboration offer varying levels of complexity, they share similarities: namely, collaboration requires effective communication and delineation of roles and responsibilities, shared and mutually beneficial goals, and collective sharing of information and means. All of these similarities are particularly evident in the definition proffered by Mattessich and Johnson (2018), who defined collaboration as a “mutually beneficial and well-defined relationship” by two parties in order to “achieve common goals” (p.5). This “well-defined relationship” is further broken down into four components: first, the partners share goals and commitment to achieving them; second, partners work together to create structures for collaboration and share the burden of responsibility; third, accountability is mutual, and authority is shared; and all resources and benefits gained through the collaborative arrangement are mutual and shared (p.5). This definition is clearly aligned with the study by Buchanan et al (2012) into best practice for digital collaborations in the library sector (p.346). This dissertation will largely utilise Mattessich and Johnson’s definition of collaboration henceforth.

Additionally, there are a variety of similar terms, often used interchangeably in practice, which describe this concept of collaborative working. The most common terms utilised are: cooperation, coordination, collaboration, outreach and partnership. Whilst these terms are used to somewhat define the same concept, the collaboration continuum is a popular theory. This continuum states that each of these terms describes a stage in the same process, ranging from informal (usually cooperation or coordination) to formal (collaboration) relationships

(Diamant-Cohen and Sharman, 2003, p.103; Zorich, Waibel and Erway, 2008, p.11; Vincenza-Daurio, 2010, p.7). Vincenza-Daurio (2010, p.7) argues the stages within this continuum are: outreach, the initial point of contact between two organisations to discuss potential areas of mutual interest or responsibilities; cooperation/partnership being the decision making and planning stage; and collaboration being the final, formalised relationship in which information is pooled and created in accordance with mutual goals. Whilst most literature notes collaboration as the final stage in the continuum, Zorich, Waibel and Erway (2008, p.12) argue convergence, a matured collaborative enterprise by which the infrastructure and partner relationships have become so fully developed and engrained that the venture is no longer perceived as collaborative, is the end point. This notion of convergence is seemingly in line with Buber's (1970) view that collaboration is an inherently shared venture, by which a collaborative knowledge is constructed and is greater than a simple combination of the knowledge of its participants (cited in John-Steiner, Weber and Minnis, 1998, p.775). This research uses Zorich, Waibel and Erway's (2008) collaboration continuum description, with convergence as the final stage, and utilises the definitions of each term within the continuum by Mattessich and Johnson (2018). They defined cooperation to be informal, and lacking defined goals, structure or plans, and information is shared according to need but authority is not shared (p.78). Coordination is defined as a more formalised, structured relationship in which resources, benefits, and risks can be shared by all parties (p.78). Vincenza-Daurio (2010) found discrepancies in these terms between library literature, collaboration literature, and actual practice: this research found that partnership was preferred over coordination by both library research and practice, and outreach was unused by collaboration literature but popular in library settings to describe collaborative work (p.61). This discrepancy in terminology usage is problematic for collaboration research, however cooperation and coordination are normally used as similar stages of the continuum (despite the definitions being slightly different), and outreach is most commonly used in terms of library-services, particularly in public library domain.

2.2 Reasons in support of collaboration

This section analyses the reasons why organisations may enter into collaborations, and the benefits of these relationships. If collaborations are begun according to the criteria established in Mattessich and Johnsons (2018) definition – primarily through establishing shared goals, rewards and resources - the collaboration can be enormously

beneficial for both parties involved. Regarding library collaboration, the commonly cited benefits are improving accessibility of resources, expanding collections and user groups (Diamant-Cohen and Sherman, 2003, p.102; Bishoff, 2004, p.34; Gibson, 2007, p. 62; Vincenza-Daurio, 2010, p.10). Existing research on library collaboration focuses on collaboration with archives and museums owed to their shared 'collection-based, patron-oriented' focuses which make them naturally effective collaborative partners. The library, archive, museum (LAM) collaboration will be discussed further in the following section. Economic difficulties and financial need are a common reason for collaboration, particularly in public libraries who may have restrained budgets. Mattessich & Johnson (2018, p.2) note economic concerns to be a motivator for collaboration since collaborative working can lessen the financial strain and risk on one institution.

Mattessich and Johnson (2018) argue that combined resources and knowledge is a key benefit of collaboration, since it creates opportunities for organisations to confront identified problems, such as climate change, homelessness, and educational inequalities (p.1). Whilst the National Library of Scotland's Learning Zone is not specifically geared towards fighting economic disparities, the 2015-2020 strategic plan features discussion of equitable access and widely available learning materials which is seemingly in line with this idea of accessibility and overcoming barriers (pp.3-4). This suggests two clear benefits of collaborations: combined resources for greater impact, and increased ability to tackle a problem domain.

Firstly, a common argument in support of collaboration is that multiple parties can achieve more through collaborative partnerships than they could achieve working independently. Mattessich and Johnson provide the example of school education and the need for collaboration to tackle the issues of "education and youth development" within communities that are economically deprived, which schools alone are unable to resolve (2018, p.1). The concept of collaboration as a means of overcoming independent limitations is supported by Logsdon (1991), who argues that collaboration between organisations will continue on the condition that the parties involved identify their partnership working as crucial in succeeding to alleviate or tackle the identified goal (p.36). The understanding that collaboration allows organisations to achieve more than they could working alone is seemingly integral to the decision to begin collaborating. Research by Hearld et al (2019) into cross-sectoral collaborations found that partners saw value in collaborative alliances based on the perceived advantage and potential for success which could not be found when working independently (p.196). Within the library sector specifically, it is argued collaboration allows

the library to be more effective in outreach and providing support and services to its community, particularly with families and children (Brophy, 2007, p.212; Milam, 2008, p.16; Rolloff, 2013, p.22). This suggests that the desire to collaborate in this capacity is dependent upon the understanding that together the organisations can achieve more than they could alone, and the benefit of working together is apparent to all involved. A singular library may not have the resources, knowledge, skills, and information required to solve an identified problem, however, working collaboratively involves pooling these factors and sharing the burden of responsibilities, making it an effective method of meeting community needs, tackling problems, or creating new resources (Wilson, 2000, p.3).

Secondly, Mattessich and Johnson's point of combating identified problems as a motivator for collaboration (2018, p.1). Through the previous discourse on defining collaboration, it is clear that the identification of a problem domain is an essential in understanding collaboration. The exact definition of a problem domain is debated, but typically relates to any large-scale problem identified within society which is of interest to the stakeholders involved (Vincenza-Daurio, 2010, p.8). Trist (1983, p.270) argued that collaboration allows organisations to combat complex societal issues - for example, literacy - which they are somewhat correlated with but could not singlehandedly solve. Through this lens, it is clear why education and literacy are a natural problem domain for libraries. The Scottish Library & Information Council (SLIC) 2015-2020 strategy *Ambition and Opportunity* notes that public libraries are a "lifeline to jobs, educational opportunity, literacy, health resources and access to government and community services" (p.8) and reinforces the role of the library in supporting education, digital skills, and literacy (p.14). Vincenza-Daurio (2010) noted that in recent decades, libraries have been evolving and expanding their role, largely through collaborations with local charitable organisations, to help tackle larger societal problems which affect the most disadvantaged and isolated individuals in their community (p.9-10). Whilst the responsibilities of the national library differ in comparison to public libraries, the same perceived role in education and literacy domain problems are described in the NLS 2015-2020 strategy (2015, pp. 10-11) but on the national level. The NLS *Learning Zone* features an information literacy tool ('Project Blaster'), so there are clear correlations between the key problem domains of the library sector and the development of this digital resource.

Since national libraries fall under public services, the influence of government agenda cannot be ignored in discussing support for collaboration between libraries and other sectors. Bekkers and Tummers (2018) note that the public sector has seen an expansion in

governmental support for collaboration with stakeholders, community organisations, and citizens in order to combat larger societal problems through innovative collaborative means (p.210). Government support for collaboration is a popular reason for beginning new collaborative ventures, particularly with national organisations and sectors, such as the NLS and the education sector. In 2011, the majority government in Scotland, the Scottish National Party (SNP), published their manifesto which features several mentions of SNP support for collaboration, primarily government collaboration with international partners (p.10), health (p.8), scientific research (p.34), and businesses (p.11). Additionally, this manifesto features support for innovative educational methods (pp.12, 23), increased cultural and heritage education (p.34), literacy skills within Curriculum for Excellence (p.23) and Scots language (p.34). This is particularly notable since the NLS Learning Zone accommodates all of these learning areas. The 2017 SNP manifesto features some of these areas, namely the need for engaging education, and utilising digital innovation and collaboration with public services to benefit communities (2017, p.8). The 2016 *Enhancing Learning and Teaching Through the Use of Digital Technology* strategy document by the Scottish Government aims to accomplish four things: assist educators in developing awareness, confidence and skills in utilising digital technology within their teaching; improve digital access for all; incorporate digital skills and technology into the core curriculum; and finally, support innovative digital incorporation into Scottish education (p.3). As a government funded, national institution, it is reasonable to theorise that the government support for collaboration may have influenced the development of the *Learning Zone* to some extent. From the analysis of the above government strategies and manifestos, it is evident that digital educational resources and collaboration are becoming entrenched into Scottish education standards, and literacy education is a national priority. This further demonstrates the need for research into the awareness and value of digital resources, to understand how the National Library of Scotland can impact these national priorities regarding education.

2.3 Digital Collaboration, and the Library, Archive, Museum Convergence

Digital collaboration within library research is most often in relation to archives and museums, since this is arguably the most well-evidenced and successful example of digital collaboration between sectors. In their study of Scottish public library digital collaboration, Buchanan et al (2012) state that library collaboration was expanding beyond collaborations with their traditional partners of archive, museums, and galleries to incorporate more

innovative and wide-ranging partners, including health, commerce, sports, and education (p.338). However, the collaboration between libraries, archives and museums (LAM) are still noteworthy and crucial for understanding how the library sector has handled collaborations traditionally. The collaborations between these sectors are relatively simple owed to their shared collection-based, patron-oriented functions and natural synergies. Museums, libraries and archives are typically discussed most often in discussion of digital collaboration owed to their shared focuses on preservation, digitisation, information sharing and access (Tanackoviæ & Badurina, 2008, p.557). Whilst most examples are local level collaboration, the relatively unrestricted nature of digital information means that any digital collaboration can have enormous reach. Bishoff (2004) notes that whilst libraries, archives and museums (LAM) and similar information institutions will draw distinctive barriers between their work and others, the public is often not cognizant to these boundaries, and the growth of digital technology has further unified these sectors in the public conscious (p.34). This digital collaboration can often be as simple as museums linking their exhibitions to literature held within their local public library; simple evidence of involved and organised collaboration almost imperceptible to the average citizen utilising these services (p.34). This LAM collaboration is often discussed as 'convergence', in a similar vein as Zorich, Waibel, and Erway's (2008) idea of convergence as the final stage of the collaboration continuum in which the collaborative nature of work is so imbedded it is no longer perceived as collaboration by those involved. The concept of this LAM convergence can be visualised at a national level in the Scottish library sector. SLIC's *Ambition and Opportunity* strategy highlights the importance of local archival materials and family history research for public libraries today, stating it is a key service and one of the most utilised services on offer (2015, p.10). The clear potential for partnership working between LAM organisations have directly translated into collaboration and is one key example of the library sector enthusiastically and successfully collaborating both digitally and through traditional services.

Within a digital environment, Rayward (1998, p.207) argued that the boundaries between the library, archive, and museum sectors would become blurred and the sectors would realign to be more homogenous owed to their natural synergies and shared domain. Yarrow, Clubb, and Draper (2008) reported that museums and libraries are two of the most trusted community sources of information and could play essential roles in education (p.10), particularly with regards to creating and sharing digital resources (p.16). Zorich, Waibel and Erway (2009) credit the development of the internet and the growth in digital potential with allowing LAM sectors to return to a more unified "world of information" as was common in the 17th century, with heritage and knowledge encompassing all elements of the LAM fields (p.4).

Askin (2015) supports digital convergence within these fields since it allows for optimised services which are mutually beneficial for the professionals involved and the patron group they serve (p.12). Through a digital convergence, patrons would have a more unified experience of accessing information since resources from libraries, archives, and museums can be presented connected in digital formats, even if the sources of information are in held in separate collections or locations. Latham (2015) describes the libraries, archives and museums as meta-disciplines, defined to be a field which features immense cross-sectoral overlap and can be structured or organised according to “a particular social purpose or interest – a lens” (p.131). As evidence of this meta-discipline, Latham argues that the core of the LAM professions is information collection, organisation, retrieval and access, most often for the purpose of entertainment and education (p.14). If education is a core element of LAM professions roles, then collaboration with the education sector is seemingly natural and mutually beneficial.

It is evident that of the LAM convergence, libraries are somewhat behind in documenting their successes and experiences of collaboration with the education sector and further research is required in this area. In recent years, museums and archives have been implementing collaboration with education primarily in the form of classroom activities. Tanackoviæ & Badurina (2008) found that of the Croatian archives studied, 30.8% collaborated with elementary schools and non-profit bodies, and 38.5% with academic institutions and secondary schools (p.563). In 2015, ARC – the official magazine of the Archives and Records Association (ARA) - reported that education was becoming a “fundamental part of the services provided by archives” (Peattie, 2015, p.9). Additionally, in recent publications the ARA has supported archive collaboration with education since it encourages innovation and more creative learning projects, such as story-telling projects in which learners are tasked with bringing archival collections to life through creative means, such as filmmaking, graphic novels, and newspapers (Payne, 2019, p.10). Similarly, in 2017 the Museums Association reported success with its pilot testing of new collaboration with primary schools, which saw classroom education relocated into museums, and found that children experienced increased confidence, better understanding of the subject, and improvements in communication and social skills, and teachers were learning new creative techniques to inspire their students (Museums Association, 2017, p.13). The evidence provided by the archives and museums sectors respectively show the value in collaborating directly with the education sector, and the need for more direct research into the impact of library collaboration on education.

This section has attempted to show two key elements of digital collaboration within library environments: first, although archive and museums get the most attention of library collaborations, education is a key theme throughout these sectors and education is integral through this LAM collaboration; second, libraries are actively involved in educational collaboration but lacking research into impact.

2.4 Digital Educational Resources and the Education Sector

The identified lack in library research can in part be attributed to the prevalence of school libraries, since few schools will have their own archive or museum, but libraries are common practice in the UK. The Scottish Library and Information Council noted in the 2018-2023 school library strategy that school libraries were “central to the implementation of Curriculum for Excellence” (Scottish Library and Information Council, 2018, p.14). This strategy also highlights that library and education collaboration tends to focus on the school librarian and teaching staff collaboration, as opposed to larger collaboration at national levels (p.23). Despite this, much of the research can be extrapolated to cover public and national libraries.

The term ‘digital resources’ encompasses a huge range of different technologies, though it is primarily utilised to describe virtual learning environments (VLEs), digital libraries, and instructional tools. Gunn (2002) defines a virtual learning environment as “organised collections of digital information” (p.27). The concept of technology providing innovative means to revitalise and increase access to library resources was first proposed by Licklider in 1965 (cited in Saracevic, 2000, p.350). However, in the 21st century it has become almost an expectation of modern libraries and is intricately connected to their educational functions. Brophy (2012) found that library learning resources are “built on the foundations of modern pedagogical principles” and must be student-centred in order to encourage active learning (p.14). VLEs are simply integrating these learning techniques into multimedia environments to enrich the experience of students (p.14). The NLS *Learning Zone* offers an accessible, designated learning environment which showcases digitised library and archive content and includes projects and learning activities to promote learning. Owing to this, the term digital educational resource is most fitting to define this learning e-resource instead of the more specific VLE, digital library, or instructional tools.

Within the education sector, there has been overwhelming support for collaboration with other sectors, since at least the 1990s. Collaboration was perceived to enhance education and provide better learning experiences for children (Webb & Doll, 1999, p.29). This has

continued into contemporary Scottish education, with Education Scotland (2015a) stating that schools alone could not meet the needs of every child, and effective collaboration with partners locally and nationally was vital for effective education (pp.1, 12). Additionally, a report by the Scottish Government in 2017 found that digital technology and resources improved inclusion and reduced inequalities (p.2) but had not been successfully integrated into the classroom to the desired extent for it to benefit education (p.5). Research from the education sector on the impact of digital educational resources is supportive for their inclusion in education, since they allow “just in time” (Gunn, 2002, p.30) methods of learning wherein the information is carefully curated, and specific to the present information need and available precisely when it is needed (p.30). These resources are argued to support the development of self-efficacy with regards to information literacy and analytical thinking (Kingsawat, Kwiecien and Tuamsuk, 2015, p.51). Saumure and Shiri (2006) argue that librarians and educators were innovators of online learning resources since the development of the Web, with librarians pushing for digital libraries and educators for virtual classrooms (p.474). The digital collaboration between education and libraries can therefore be defined as mutually beneficial, and largely sharing common goals and objectives.

Successfully integrating digital resources into the classroom has been noted to improve the analytical skills, confidence, organisation, and reading comprehension of students, and help develop innovative teaching skills for the educator (Miller, 2011, p.48-49; Guggisberg, 2015, p.50). These benefits are in part owed to the interactive and entertaining nature of digital resources. The Scottish Government (2016) reported digital literacy to be a key focus of incorporating digital resources into education (p.6). Utilising digital resources to supplement the existing curriculum can then be said to benefit both the learner’s experience with education but their digital literacy simultaneously.

There has been discussion on the role of digital resources in supporting Social Constructivist Theory and scaffolding educational techniques. Social Constructivist Theory, pioneered by Vygotsky (1978), places interaction with family, teachers, and peers as central in the educational and learning development of young people (cited in Jumaat and Tasir, 2014, p.74). Scaffolding describes the role of the educator in laying the foundations and support for students learning, which can gradually be removed as the student’s independence and understanding grows (p.74). Digital resources support these learning approaches by allowing the social influence to be retained - potentially through group tasks or interactive learning, and educators or parents teaching students how to utilise the resources - whilst allowing students the independence to explore and learn and develop their efficacy in utilising digital

technologies (p.74). Doyle-Jones argues that digital resources allow optimisation of multi-modal learning techniques, and imbed a variety of literacies into the curriculum, whilst promoting scaffolding teaching and student independence (2015, p.37-8). Digital resources can be incorporated into the curriculum in varying ways, in which the teacher can remain more hands-on or the student can explore independently. This is particularly well-fitting for the Scottish education system which emphasises educator's flexibility and tailored student experiences.

Secore (2017) noted that whilst digital learning resources allow development student independence and researching skills, they retracted traditional learning experiences such as libraries, and in person communication (p.6). However, a digital resource created and maintained by a library, utilising library holdings for subject material, would then solve the first issue Secore highlights of library disengagement in learning. Similarly, the digital lack of one-to-one communication could be alleviated depending on how the resource is integrated into the curriculum by the educator. The NLS *Learning Zone* pages aimed at school children often feature classroom discussion questions and activities which can promote student's communication skills. This shows that digital resources created by a library institution can potentially be of immense value for school education.

2.5 Curriculum for Excellence

This section provides an overview of the current Scottish education system, Curriculum for Excellence (CfE). This curriculum is a highly flexible and varied approach to learning, which places local needs ahead of a centralised formula (Scottish Government, 2008, p.3). It was developed in order to provide a more student-based education, in which the pace matches the requirements of the classroom and allows educators the opportunity to make decisions on the appropriate learning for their classroom (Scottish Executive, 2004, p.4). The CfE areas are: expressive arts, Gaelic, health and wellbeing, languages, literacy and English, numeracy and mathematics, religious and moral education, sciences, social studies, technologies. Of these 10 curriculum areas, the NLS *Learning Zone* directly supports four (Gaelic, health and wellbeing, literacy and English, & Social Studies). However, some areas have learning resources available (such as science and technology) but is not directly related to CfE or as clearly geared towards educators. In 2015, Education Scotland reported that CfE encouraged schools to incorporate Scots language learning into childhood education and suggested utilising online tools such as animated resources to supplement learning (Education Scotland, 2015b, p.2). The *Learning*

Zone has a Scots language resource (*Scots language wi Oor Wullie*) which features resources for teachers and parents. Education Scotland (n.d) promoted the use of the *Learning Zone* specifically with regards to Scots language and encouraged classroom activities such as translating sections of the site into Scots, use the site to improve reading comprehension and critical reading skills, oral Scots presentations, and class quizzes (p.1). The *Learning Zone* was designed to support CfE and there are clear correlations between the CfE standards and the content of the NLS Learning Zone. However, there is no available research into whether or not teachers are utilising this advice and have incorporated the Learning Zone into their classes, but the enthusiasm of Scotland's leading educational body suggests that there is support for the resource within contemporary Scottish education.

Additionally, Education Scotland highlights that, in meeting the assessment criteria associated with each level of CfE, teachers should implement the following criteria into their curriculum: "challenge and enjoyment, breadth, progression, depth, personalisation and choice, coherence and relevance" (Education Scotland, 2016, p.5). With regards to the "challenge and enjoyment" element, there is research showing incorporation of digital tools can make a more enjoyable learning experience for young people. In 2015, the Scottish Government reported that digital technology can be used to enrich the curriculum, and allow teachers and students access to a broader range of information and resources than would be physically available to them (Education Scotland, 2015b, p.4). Fabian, Topping and Barron (2018) found that students had positive attitudes towards technology in relation to the 'numeracy and mathematics' area of CfE but that the teacher remained an essential part of the learning process (p.1136). This section has shown that the Scottish education framework, CfE, is compatible with the NLS *Learning Zone* and incorporation of digital resources into classroom education is well-supported within educational literature and theory.

2.6 The National Library Context

The NLS *Learning Zone* is symbiotic of a growing trend towards educational focus which has occurred in British national libraries since the mid-20th century. Education has been gradually incorporated as an integral function of the national library. Humphreys (1966) noted seven tasks of the national library: collecting publications from the nation, legal deposit, collection foreign materials, publishing bibliographies, publishing their catalogue, and creating exhibitions (cited in Stevens, 2016, p.147). Line (1989) highlighted that a national library, whilst having varied duties, should represent the specific information needs of the nation it represents (p.306). Line identified eleven types of 'Library & Information Need', including

collection & preservation, providing access to information, and education and training (p.307). Vitiello (2001) details the history of four European national libraries, and notes that in comparison to France, Germany, and Italy, the British Library had a more educational focus, with early emphasis on the need to provide equitable “learning possibilities” to all citizens, and the need to change public attitude to curated collections via education and opportunities (p.144). Vitiello also notes that the primary aim of the British Library was to disseminate cultural resources widely and education was the focus (p.147). Brindley (2002) argued that the modern national library should incorporate “support for education and lifelong learning” into their development (cited in Stephens, 2016, p.148). Stevens (2016) identified an increasing focus upon national libraries creating educational resources and activities aimed at young people as a macro-level trend occurring in national libraries worldwide (p.151). This is evidently true within a Scottish context, as the strategic plans of the NLS since 2004 show this support for education becoming embedded into their perceived function. The 2004 NLS strategy highlights the need to continue developing the educational activities offered by the library, in order to increase access (p.14). The 2008 strategic plan expands upon this desire to open access for education, by explicit mention of collaborating with educational institutions in Scotland to continue supporting education and create new innovative means for educational use of collections (NLS, 2008, pp.8-9). The 2011 NLS strategy highlighted the role of the national library in supporting education and the need for access to the NLS materials in school, higher and further education environments (NLS, 2011, p.6). The latest strategy published by NLS, the 2015-2020 strategy, explicitly mentions the desire to continue developing the *Learning Zone* in order to support Scottish schools and provide innovative resources for teachers to utilise in educating young people (p.13).

However, within a European context this ‘macro-level’ trend was harder to find evidence of. The understanding of digital education resources discussed previously was mapped onto the websites of fourteen national libraries in Europe. These libraries (Belgium, Belarus, Croatia, Denmark, Finland, France, Germany, Ireland, Norway, Poland, Romania, Russia, Spain, and Sweden) were randomly selected in order to determine the scope of digital educational resources within Europe. Of these fourteen, only three national libraries feature some form of digital educational resources as this dissertation has defined it: Ireland, Poland and Croatia. Ireland had an entire page dedicated to educational resources, in the form of downloadable packs for classroom activities. Croatia featured a virtual classroom, which involved information provision on a variety of topics and set quizzes. Poland had a virtual projects portal which takes the user into a range of virtual information resources aimed at all learners. Whilst many of the

national libraries consulted did have evidence of working with education (providing information on school visits and workshops being common), a specific designated digital resource for learning was not found on the websites for eleven of the national libraries consulted. The Library of Congress, the national library of the United States, has an extensive educational resource that provides digitised materials from the library collection and classroom planning information to assist educators in bringing the materials into their teaching. The lack of European educational resources suggests that perhaps the trend observed by Stevens (2016) has not directly translated into digital educational resources yet.

Within a British context, every national library features their own educational digital resources. The British Library offers a range of downloadable classroom materials, in a similar style to the Irish example. The National Library of Wales hosts projects and learning resources aimed for classroom education. Vitiello's research (2001) remains somewhat accurate in depicting Britain as having more educational focuses in national library functions, when compared with Europe. Whilst the research showed that education was becoming central to the purpose of the national library, this has perhaps not materialised in digital provision yet. There is a similar lack of research into the perceptions of teachers into the other national library digital educational resources highlighted above, making the lack of research into the NLS resource part of wider trend in research on national libraries worldwide.

2.7 Chapter Summary

It is evident from the preceding literature review that there is a requirement for more research on the digital collaboration between national libraries and the education sector, and for increased understanding of the impact and value of these resources in 21st century classrooms. Digital collaboration with the education sector has been massively neglected by existing research, despite the continued importance it has in national strategies.

This research intends to analyse the perceptions of Scottish teachers on whether or not they believe the Learning Zone could be beneficial to their classroom education. As a result, 'value' is primarily used to signify whether or not teachers think the resource would be useful for education, and whether they believe library educational resources can make valuable contributions to creating engaging and age-appropriate education for their students. In this research, value is defined to signify a resource which contributes in some positive way to education.

Chapter 3: Methodology

3.1 Chapter overview

This chapter outlines the methodologies utilised for data collection in this research project. First, it discusses the research context and the background in why this study is necessary. Secondly, it outlines the decision to utilise semi-structured interviews, how participants were recruited and how the interview questions were designed. It ends with discussion of ethical standards and how data was analysed.

3.2 Research Context

This research is investigating the perceptions of digital collaboration between the National Library of Scotland (NLS) and the Scottish education sector. Existing literature on collaboration tends to focus on collaboration at the community level, with public libraries, local charities and non-government organisations, small businesses, and local government being the most common subjects. This has resulted in a research gap for national-level collaboration. Digital collaboration on a national level could have an immense impact into education, since it allows essentially unrestricted access to specially curated content and is not limited by physical accessibility concerns. Any Scottish school with internet connection could access the *Learning Zone* and utilise the resource to support innovative education, unlike the physical NLS collections which are potentially only accessible to schools in central or lowland Scotland with appropriate funding, staffing, and travel capabilities to visit the library. Research into how teachers perceive these library-curated digital learning resources is urgently required since, within a UK context, national libraries are showing clear interest and investment in developing resources to support education. As the literature review demonstrated, each national library in the United Kingdom offers some form of digital educational tools for teaching. The analysis of the NLS 2015-2020 strategic plan highlighted the increasing importance of education in the role and continuing development of the library. On both a Scottish and UK level, this focus on education can be expected to continue, making the lack of study into its value an evident gap in current library research. This dissertation employs semi-structured interviews in order to collect qualitative data into how NLS staff and Scottish educators view these educational resources and the value of this national-level collaboration.

3.3 Literature Review

The Grounded Theory Literature Review Method (Wolfswinkel, 2011) was utilised in developing a literature review strategy. This model has five key stages: define; search; select;

analyse; present (p.46). For the define stage, this topic was broken down into five research components which were then combined in the final literature review. These components were: collaboration theory, library collaboration, national libraries, education, and digital resources. These components were selected as a result of the initial research aims, and provided the terminology utilised in the searching stage. Relevant databases were identified and consulted where appropriate (such as Library and Information Science Abstracts and Education Database) in order to retrieve sector-specific literature. The selection process for literature was fairly minimal, owed to the existing lack of research and parameters set for the literature review. As many of the crucial and most frequently cited studies were from the mid to late 20th century, no parameters on publication dates were set. Withdrawing these older pieces of literature would severely impact the understandings of the subject area – particularly regarding collaboration discourses, purpose of national libraries, and approach to learning theories. These works are continually cited in the more recent research, and so their findings are robust and still add value into new research. Similarly, the lack of research done in this area and the global nature of digital resources meant that geographic limitations would severely inhibit the quality of the literature review conducted. The process of analysing the literature selected was largely thematic in nature, with the intent of identifying trends that have emerged since the mid-20th century.

As this dissertation is a case study of the National Library of Scotland, organisational strategic plans were consulted throughout. This literature review provided the foundations for designing this case study and deciding upon the most appropriate methodology to utilise. Vincenza-Daurio (2010) and Mattessich & Johnson (2018) directly influenced the design of this research, which shall be further discussed in section 3.4.

3.4 Research Methodology

This research is a case study of the National Library of Scotland's collaboration with the education sector. Vincenza-Daurio (2010) noted that case studies provide valuable insights into library collaborations, owed to the high variables and lack of uniformity from one collaborative project to the next (p.12). A case study approach can accommodate these variables and provide useful insight into collaborations in practice.

This research involves semi-structured interviews with National Library of Scotland staff who work on the *Learning Zone*, and Scottish teachers. As this research sought to gain insight into perceptions and experience of two participant groups (NLS staff and educators), semi-

structured interviews were an appropriate form of qualitative data collection (Qu & Dumay, 2011, p.259; Blandford, 2013, p.23; Iyamu, 2018, p.2254). A survey was initially considered but owed to the difficulties in applying the specific research objectives and questions into a user-friendly survey format, this was not done. This is further discussed in the limitations of this research (section 5.2.2). The methodology utilised should be influenced by the research questions and objectives, and the particular forms of data to be collected (Jamshed, 2014, p.87). The artifices of qualitative interviews and the forced cognition problem (Myers, 2007, p.3) were unlikely to present any problems for this research since NLS staff who actively work on the Learning Zone will most likely have given some thought to the value of the work they are doing and the value of the resource prior to this research. Similarly, educators are consistently reviewing lesson plans and their educational tools in order to meet Curriculum for Excellence and the expectations placed upon them in supporting education. As previously discussed (section 2.5), Curriculum for Excellence is a flexible approach to learning which supports innovative teaching methods. Additionally, the curriculum places more power onto the teacher to make decisions on what is best for their particular classroom and the needs of their students. As a result, Scottish teachers are used to evaluating resources and thinking critically about learning methodologies. Asking teachers about their perceptions of the NLS and the role it plays in education, or the value of digital resources, is therefore something they are invested in by the nature of their profession.

In order to determine what the criteria for educator participation would be, the *Learning Zone* site was analysed to identify any areas which explicitly mention teachers, age-appropriate learning or Curriculum for Excellence (CfE) subject areas. Several of the Learning Zone subjects have signposted 'teacher's resources' which encompass anything from classroom project ideas, useful websites to visit, and information on how the resource is compliant with CfE standards. The key subjects and education level identified were: primary and secondary education on history, English, social studies, geography, information literacy, and Scots language. From this analysis of the different areas the *Learning Zone*, the inclusion criteria for teachers was developed. Any educator that teaches or holds an interest in these subjects at either primary or secondary level was eligible for participation.

Interviews with the NLS Learning team were relatively open in that any current NLS staff member who works on the *Learning Zone* could participate in this research. Whether non-Learning staff should be included in this research was carefully considered as the resource is an ongoing project and the team responsible for it were expected to be fairly small. The sample

size for NLS staff interviews was therefore limited from the outset. Including non-Learning staff in the research could enrich the data on the support for collaboration within the organisation, and how the collaboration is perceived to the rest of the organisation who are not directly involved, which are elements of evaluating collaboration supported by Mattessich & Johnson (2018, pp.59-61). However, this was decided against since data of staff without personal experience in collaborating with the education sector would not significantly benefit this particular case study.

The *Learning Zone* has a specific email address to be used to contact the Learning team with any queries. Since this research focused on this one department, an email detailing my research and inviting any interested staff to participate was sent. Teachers were recruited through convenience sampling and existing personal connections with the researcher. In order to recruit more participants, a snowballing approach was employed. Snowballing entails a small initial group of interviewees, who then recommend another individual to be interviewed and so on (King et al, 2014, p.62). Bryman (2012) notes that snowballing is effective for accessing individuals you would not have been able to reach alone (p.424). Whilst there are risks to a snowballing approach, it can be an effective method for recruiting teachers. Every participant received a copy of the participant information and consent forms (Appendix A and B) prior to agreeing to participate in this research in order for them to understand the voluntary nature of involvement and their right to say no or withdraw. This was done both in order to follow GDPR legislation and ensure consent is informed at all times, and to help alleviate issues of participants feeling pressured to take part. Additionally, advertisements for this research were placed on the websites and social media of: The General Teaching Council for Scotland, The Scots Language Centre, and The Scottish Primary Teachers Facebook group page. This advertised my research to a broader national audience and invite any interested teachers to contact me if they would be willing to participate. Additionally, individuals from Education Scotland were invited to participate owed to the links between the NLS and Education Scotland established during the literature review.

3.5 Interview Design

3.5.1 Educator Interviews

The decision to utilise semi-structured interviews factored directly into the design of the interview questions. Awareness of the *Learning Zone*, and use of digital resources more generally, will vary between participants and a more flexible interview approach allows questions to be tailored to each individual participant. Rabionet (2011) highlights that

unstructured interviews come with the risk of potentially not getting data on relevant and important themes and accordingly, some structured questions can be beneficial (p.564). Accordingly, interview questions on the key themes of this research (collaboration with library sector, digital education resources, and national libraries' role in education) were incorporated into the interview script. Some of the questions asked of educators (full script provided in Appendix C) were:

1. What are your views on using digital resources in education?
2. Are you aware of the NLS Learning Zone?
3. The Learning Zone is the result of digital collaboration between the NLS and the education sector. What role do you think the NLS could play in education?
4. Do you think there are any benefits of the NLS collaborating with the education sector to create educational tools like the Learning Zone?
5. In what ways do you think that schools and the NLS might collaborate further to support education?

These questions were designed so that, regardless of participants' familiarity with the *Learning Zone* or digital learning resources, valuable data could still be extracted. Blanford (2013) notes that there are four components of a semi-structured interview: introduction, opening questions, more detailed questions, and closing (p.23). This structure was particularly useful for interviews with teachers, since opening questions on their professional roles and existing familiarity with digital resources allows for the more in-depth, detailed questions to be tailored to specific individuals' experiences. As some teachers may be entirely unaware of the *Learning Zone* resource, questions on their perceptions of it and its value may elicit forced or inaccurate responses. Additionally, if teachers have no awareness of the Learning Zone but are familiar with other digital resources, valuable insight could still be gained of their perceptions of the usefulness and value of these resources, and the potential role the NLS can play in education.

3.5.2 NLS staff interviews

This research sought to record the experiences of the NLS staff responsible for the Learning Zone, and perceptions and experiences of teachers regarding this digital resource. Tanackoviæ & Badurina (2008) found that existing research on collaboration often failed to take into consideration the experiences and perceptions of those involved (p.558). There is low generalisability of this research owed to the specificity of the case study being investigated. However, this research will add valuable insight into perceptions and experience of collaboration between the National Library and the education sector within a Scottish context.

Interview design for NLS staff was directly influenced by Vincenza-Daurio (2010) and Mattessich & Johnson (2018). Vincenza-Daurio's (2010) work is a case study of a public library and local community organisation collaboration in the United States and follows a similar investigative approach to this case study. Whilst Vincenza-Daurio's case study differs from this research project, in that their research was a community-level case study in which all interviewees were active members in the collaborative project, the interview script utilised by Vincenza-Daurio was influential in the design of this research. As the discourse on defining collaboration (section 2.2) showed, the definition of collaboration and the variant terminology used interchangeably are all integral to understanding collaboration. The discrepancy in terminology and how each is defined in practice can complicate the research findings if not clearly defined. Rather than impose their definition onto the participant, Vincenza-Daurio asked participants their preferred term out of partnership, collaboration or cooperation, and for each to define what it meant to them (p.153). This is effective since these terms are used somewhat interchangeably in practice and interviewed participants may have their own definitions and understandings of what these terms entail. For this research project, a similar approach was utilised in order to gauge how the interviewed participants understood collaboration. Additionally, whilst Vincenza-Daurio's case study was on a community level, their questions on the role of the library in the community can be utilised for this research project to understand the perceived role of the National Library in education.

Mattessich & Johnson (2018) influenced this research through their definitions of collaboration and methods for evaluating collaboration. Their Wilder Collaboration Factors Inventory (pp.59-61) and reflective questions (pp.94-98) provided inspiration for designing questions to determine where the NLS fell on the collaboration continuum scale. Whilst these evaluative tools are intended for members of a collaborative project to evaluate their effectiveness and relationship, several of its core elements could be extrapolated to fit this case study, such as evaluating support for collaboration within the wider organisation or stakeholder group (p. 59). This was useful for designing interviews with the NLS staff. The NLS 2015-2020 showed clear support for collaboration, education and the Learning Zone and so understanding how the staff perceived the organisational support is important data for this research project. Additionally, their tool established criteria for determining how mutually beneficial collaborations are perceived to be and understanding the wider political and social climate that necessitates collaborative projects (p.59). This is useful for this case study since responses from both teachers and NLS staff on the mutual benefits of the Learning Zone, and the current Scottish political climate with regards to education (discussed in section 2.2)

provide useful insight into the perceptions of value in collaboration between the national library education.

The full interview script for NLS staff interviews is attached in Appendix D. However, the main categories of questions for NLS staff were:

- Perceptions on collaboration – definition, support within the NLS, future potential for more collaboration, and evaluative measures
- Experiences of collaboration – what type of relationship with teachers,
- Learning Zone resource – process of designing and promoting the resource

As this case study is not examining collaboration between two organisations, instead focusing on a national organisation and the education sector more broadly, understanding how this collaboration works and how it is perceived by the staff involved is crucial. The lack of similar research into this form of collaboration means that there is no framework for understanding how these collaborations are formed, how they are maintained and how those involved perceive them. Building relationships between collaborators is commonly cited as one of the main challenges to collaboration (Tanackoviæ & Badurina, 2008, p.571). However, in this NLS collaboration, the relationship between the staff and educators is unknown and uncovering how this collaboration functions and what type of relationship exists is an important element of the research.

3.6 Data Analysis

Interview responses were recorded and partially transcribed. Initially interviews were intended to be fully transcribed, but time limitations prevented this. Fully transcribing qualitative interviews requires an immense amount of time and effort to accurately record the interview in text (Wilson, 2002; Brod, Tesler, & Christensen, 2009, p.1269). Accordingly, NLS staff interviews were fully transcribed and teachers were only partly transcribed. Additionally, interviews with teachers tended to include identifiable data. This was not asked for or recorded in transcriptions to protect anonymity and maintain ethical standards, but teachers consistently stated names of colleagues and schools they had worked in. Partially transcribing the interviews allowed all potentially identifiable data to be removed before analysis.

These transcriptions were then inputted into NVivo software in order for them to be coded. Owing to the qualitative nature of the data being collected and the semi-structured interview methodology utilised, the code was not created prior to the interviews. This research

utilised a thematic analysis to uncover and analyse prevalent themes from interview data. Thematic approaches to data analysis are useful for allowing patterns and themes to emerge naturally (Braun and Clarke, 2006, p.79) which made it particularly appropriate for this research. Since there is a lack of research in this area, no existing coding system exists which could be applied to this case study effectively. The interviews with Scottish teachers were coded to identify the most common themes and points of discussion. The coding system which emerged was:

- Benefits and value of the resource for teachers
- Promotion and outreach by the NLS
- Linking to Curriculum for Excellence
- Fluidity and changeability of resources
- Reputation of the NLS

These nodes were derived from commonly discussed themes and topics in interviews. The majority of nodes, with the exception of promotion and outreach by the NLS, were not part of the structured interview scripts prepared beforehand. They emerged naturally and with a variety of negative and positive insights from participants.

3.7 Ethics

Ethical approval from the Department of Computer and Information Sciences Ethics Committee prior to commencing interviews and recruitment of participants. All interested individuals received a copy of the participant information and consent forms (Appendices E and F) to inform them of this research, their right to withdraw or say no, and how data will be handled. Pseudonyms were utilised to protect the anonymity of research participants. Each pseudonym was generated using a name generator online. This did not take nationality, gender or any other identifiable characteristics into account. This was a necessary precaution since the workplaces of four interviewed participants (National Library of Scotland and Education Scotland) were recorded, and so using pseudonyms to protect their identities both within and outwith the context of their organisation is crucial. The individuals from Education Scotland have been recorded under the educator category and have not been distinguished from the other interviewed educators. All data collected has been stored securely on a personal computer of which no other individual has access, and a backup on the University of Strathclyde server. This will be destroyed in November once final marks have been received.

All participants signed consent forms prior to interviews in order to ensure informed consent to this data storage plan.

Chapter 4: Findings

4.1. Chapter summary

This chapter summarises the findings of the research interviews with NLS staff (section 4.3) and Scottish educators (section 4.4). The chapter ends with discussion of the findings, particularly in relation to the research questions and purpose of this research.

4.2 Demographics

A total of nine interviews were undertaken as part of this research project. The initial expectation that the NLS team responsible for the Learning Zone would be relatively small was ultimately correct, with only a single member of staff actively working on the resource. In order to provide a richer data set, an additional NLS staff member whose job role involves the web design of the *Learning Zone* was invited to participate. This second member of staff has no direct role in the collaboration with educators but was able to speak on the NLS as an organisation and their role in education.

As Education Scotland were identified as a major collaborative partner, two individuals from Education Scotland were interviewed. Each had a different area of expertise that directly correlates with the topics on the *Learning Zone*. One of the Education Scotland participants has directly worked with the NLS on educational collaboration before and so their interview results are discussed both in the NLS section (4.3) and educator section (4.4). However, to protect the anonymity of the participant, their pseudonym is not cited in the NLS section. Neither of the two Education Scotland participants have been distinguished and are recorded via their pseudonyms under the teaching category in order to prevent any potentially identifiable data.

Teachers were recruited via digital advertisements placed on the social media or websites of the General Teaching Council for Scotland, The Scots Language Centre, and The Primary Teachers Facebook group. Additionally, emails were sent to Education Scotland advertising my research to their staff and enquiring on methods to recruit teachers. A snowballing approach was also utilised in order to maximise the participant group. These methods were successful in recruiting eleven teachers. However, owed to conflicting schedules and difficulties in maintaining contact throughout July, only seven of these eleven teachers were able to be interviewed for this research. The recruitment criteria for teachers were:

1. Primary teachers interested in Scots language or information literacy

2. Secondary teachers who teach history, English, social studies, geography

These criteria were derived from the *Learning Zone* itself, by matching topic onto teaching areas. As primary teachers will teach a range of topics, those with interest in these subject areas regardless of experience were encouraged to participate. The criteria for recruiting teachers were fairly broad in order to evaluate if teaching subject influenced awareness and perceptions of value on this collaboration. However, the teachers recruited were largely primary teachers interested in Scots language (42.8% of participants), and English and information literacy teachers (42.8%). One history teacher (14.2%) participated in this research. The subjects covered resulted in extensive discussions on two specific areas within the *Learning Zone: Scots Language wi Oor Wullie*, the interactive Scots language resource featuring the characters from Oor Wullie the comic strip; and *Project Blaster*, a six-step information literacy project to teach research, information finding and critical thinking skills to primary school children. These two sections are referenced to extensively in this analysis.

Participant	Teaching Level	Subject
David	Primary	Scots language
Dean	Primary	Scots language
Rachel	Secondary	English and Scots language
Elaine	Primary	Scots language
Carol	Primary	English and Information literacy
Elizabeth	Primary	English and Information literacy
Chris	Secondary	History

Table 1: Breakdown of teaching participants, subject of interest and level taught.

Additionally, the library, archive, museum convergence (discussed in section 2.3) is returned to in order to evaluate how the National Records of Scotland's educational site *Scottish Archives for Schools* compares to the National Library of Scotland Learning Zone. The design and resources held on each site vary massively, however, as the NRS is Scotland's national archive, it is the closest Scottish comparison for the NLS. In order to compare these different

approaches to national level collaboration, an email enquiry containing a list of questions was sent to the education team at the NRS and the response has been recorded and analysed.

Scots language was an unintentional theme that emerged from the recruitment attempts. In responses to advertisements by both the General Teaching Council for Scotland and The Scots Language Centre, Scots language was an overwhelming area of interest from teachers with varying levels of prior experience with teaching the language.

4.3 NLS Staff Interview Findings

Interviews with the two NLS staff members who work on the *Learning Zone* in some capacity focused on the question of national level collaboration and how it functions. As the literature review (section 2.3) showed, most existing case studies on collaboration tend to be at the community-level. The interviews with NLS staff attempted to understand how national level, cross-sectoral collaborations function and staff experiences with them.

4.3.1 Collaboration Terminology

The first interview questions established the experience and perceptions of collaboration by both participants. Both participants had worked on collaborative projects before and each expressed preference for the term collaboration to describe the work they were doing with education. An initial question asked within interviews with NLS staff was “What terms do you use to describe the work you are doing with education?”. Each of the NLS staff interviewed expressed clear preference for the term collaboration to define their work with the education sector, and no other terms within the continuum were utilised. Michelle stated that collaboration was the term utilised when reaching out to potential partners and highlighting mutual benefits of the project was an important part in establishing new collaborative relationships with educator. Jane agreed that collaboration was the preferred term for all collaborative working, whether it be relating to teachers or working with designers for the website. No other term to describe this form of partnership working was utilised within the interviews.

4.3.2 Creating the Learning Zone

When asked about the process of deciding to make an educational resource, Michelle stated it was a “conscious realisation that young people and teachers were increasingly utilising digital materials” and there was a need for the NLS to create thematic entry ways for the

collections. The content in the resources were designed according to the Curriculum for Excellence broad topics, and the Learning Zone has been consistently worked on and new sections are added each year. Jane noted that even prior to the development of the Learning Zone, there were several micro-sites with learning activities and information already held on the NLS website, but the decision was made to formalise the learning resources into a designated, “bespoke section and the various learning features could all go under that”. The content on the Learning Zone is constantly growing, owed to a quota of three new sections a year, many of which are mapped onto Curriculum for Excellence standards, experiences and outcomes. Accessibility was identified as a key motivation for the Learning Zone site by both participants, through providing thematic and age-appropriate sections with information and resources to support education and the accessible design of the resource itself.

When creating new content for the Learning Zone, educators are approached for collaborations in order to gain their expertise on creating relevant learning materials. Michelle reported that the process of collaboration in regards largely follows this structure: she reaches out to Education Scotland or individual teachers with expertise in the subject area with an invitation to collaborate; content is designed by NLS staff based on collections or resources held by the library; educators then provide educational activities and tools for the content and map it onto Curriculum for Excellence Experiences and Outcomes; the content is sent to Jane who evaluates it for accessibility and web-suitability; then it is uploaded onto the Learning Zone site. One participant who has collaborated with the NLS personally stated they created educational resources to be utilised with the content provided by the NLS staff. When asked about the developing a collaboration, they stated:

“I don't think there's any real story behind this just the obvious link of Education Scotland, national organisation and National Library, national organisation.”

Michelle noted that the relationships built through the collaboration are generally positive and continue beyond the scope of individual projects, with the NLS staff and the educators becoming “working colleagues” with an effective personal and professional relationship.

4.3.3 Risk sharing and authority

When asked about risk sharing and who carries the burden of responsibility, Michelle stated:

I think the risk is all ours because the budget is ours and really the reputation. If we put something out that is not quite as robust as it could be, I think regardless of who the partner is we would be coming in under fire. We would be the first. ... reputational risk is all us and that puts a lot of responsibility on us and who we are collaborating with. (Michelle).

Similarly, the collaborator from Education Scotland highlighted that the partners are brought in for their expertise and understanding of education materials in the relevant areas, but the responsibility for the published material and the resources lies squarely on the NLS as the proprietors and owners of the site. Additionally, the NLS is a clear leader in this collaborative project. Instead of authority and responsibility being mutual and equal, the NLS is the key decision maker. Upon receiving the educational content designed by teachers, Michelle will respond with approval or recommendations for changes before the content is published. The decision making involved and risks associated with the *Learning Zone* are entirely the domain of the NLS.

4.3.4 Reputation and the 'Library of last resort'

Both NLS staff and the collaborator from Education Scotland agreed that the National Library has an important role in supporting education, and that education should be more ingrained into the reputation of the organisation nationally. Michelle stated that education is already part of the National Library of Scotland's reputation, but it is not really "filtered through all levels of education". The perception of the library as the 'library of last resort' was identified as an issue in supporting primary and secondary education. The *Learning Zone*, whilst designed with all learners in mind, is largely a resource for school education. Through mapping the sections onto school subjects and Curriculum for Excellence Experiences and Objectives, it is evident that school education is integral to the design and intended audience of the resource. The NLS staff reported the last resort reputation as an issue, with their educational focus tending to be "academic or researchers" with all other learners not being "high on the list" (Michelle) and trouble identifying the "key audience" of the library resulting in schools being low on the list (Jane). Mid-to-upper primary level education was identified as the lowest age group the *Learning Zone* could cater to, since library collections do not hold sufficient quantities of material that could be applicable to early years education.

Both NLS staff expressed desire to continue developing the collaboration with primary and secondary education and integrating more work with schools into the NLS overall. When

asked about why the NLS collaborates with education and what the benefits of this are, Michelle stated that teachers are “creating the users of the future” and collaborating with education helps to promote the National Library of Scotland to younger ages and is essential to library advocacy and outreach.

4.3.5 National and local collaboration

As the NLS represents the nation, it has an overarching, national perspective on its collections and its resources. This is particularly evident in topics with great regional variations, such as Scots language. The participant from Education Scotland suggested the NLS should collaborate more with public libraries, since they are often in a better position to create Scots resources owed to their “intimate knowledge of the community” and its Scots dialect, and their “existing presence in the lives of children, families and young people”. A similar thought was echoed by the NLS staff who reported that desire to collaborate on a local level (including local libraries, archives, and organisations) is popular within collections departments in the library, to benefit from local expertise and community engagement. The *Iolaire* section of the Learning Zone was specified as an example of this local collaboration, wherein the NLS worked with libraries in the Western Isles to create the resource and linked to the existing materials held by the Western Isles. Both participants stated this type of community work was something they would like to continue developing and are aware of the different capabilities of the NLS as compared with smaller public libraries facing limited resources and budget cuts. When discussing the budget for the *Learning Zone*, Michelle stated:

We do have more of a budget than smaller public libraries, so that’s why we tend to bear the burden of any learning resource because we know we have got the funds to be able to collaborate with them. We don’t necessarily pay our collaborators, but they know we can create something bespoke (Michelle)

With regards to the *Learning Zone* and *Scots Language wi Oor Wullie* specifically, Jane highlighted that regional concerns are a difficulty in creating these digital educational resources since Scots varies across the country and there is no singular version of the language. Balancing the national duties of the library to represent the nation and the regional variations was identified as a potential problem area for the *Learning Zone* resource.

4.3.6 Promoting and Evaluating the Learning Zone

Interviews with educators were attempting to gauge the existing awareness of the Learning Zone. In order to gain this insight, an understanding of how the NLS promotes the resource was gained. The promotional tools for the Learning Zone largely rely on social media, attendance at conferences or events, promotion via NLS newsletter and website, and linking with other organisations (such as Education Scotland). Whilst both staff agreed that more promotion and marketing was needed, the promotion of the site was said to be relatively successful with the social media getting a lot of “engagement and traffic” (Jane). Michelle highlighted that owed to limited budgets and essentially being a single person team, opportunities for more direct outreach with teachers and schools was challenging.

Whilst the *Learning Zone* does not undergo any pilot testing or evaluative measures, engagement is tracked via Google Analytics. Jane reported that *Scots language wi Oor Wullie* is a particularly popular resource worldwide, with high interest and engagement in Australia, China, and India. No formal evaluative measures are in place for the *Learning Zone*, and so teacher engagement and awareness levels are unknown. However, the *Learning Zone* is continually adapted and updated, and any perceived issues can be flagged easily. One issue that was identified in these informal evaluations was the lack of signposting resources. Since the *Learning Zone* is intended for all learners, effective signposting resources for teachers has not been implemented across all sections on the site. Some sections feature specific teachers resources tabs and designated pages, however, others are more ambiguous. This ambiguity was perceived to be a problem in the Learning Zone by the NLS staff, and they expressed intention to rectify it with a more robust labelling system.

4.3.7 Library, Archive and Museum Convergence

The concept of the library, archive and museum convergence (section 2.3) was discussed in the interviews to understand if the NLS considered archives and museums (or similar heritage organisations) to be collaborative partners. In the design process of the Learning Zone, Michelle noted that she tries to stay cognizant of what heritage organisations are doing with their education collaborative projects and looks beyond just other national libraries for inspiration. The national library holds significant archival and special collections, therefore how the library approaches national collaboration compares to the rest of the LAM convergence provides some useful insight into how the NLS collaboration functions. No digital examples of

collaboration from the National Museum of Scotland (NMS) were available for analysis at the time of this research. However, the National Records of Scotland (NRS) have an evident collaboration with the education sector, including a now static *Scottish Archives for Schools* site, and a schools resources page onto which any future digital resources will be added. An enquiry email containing several of the interview questions asked of NLS staff – and participant information and consent forms - were sent to the NRS in order to gain insight into how the NRS approaches their collaboration. The response highlighted that, although the designated NRS education site has not been updated in a few years owed to technical difficulties and migration to a new web system, there is a clear correlation between the collaborative objectives of the NLS and the NRS. When creating educational content, a primary teacher was taken on secondment to work with NRS staff however the risks, archival content and website content were all the responsibility of the NRS staff. This is distinctively similar to the NLS collaboration structure with teachers. When asked of the future potential for collaboration with education, the NLS staff identified continuing to develop more relationships with the education sector to understand their “learning experiences and their community” and how they “use our core materials to make their own stories and narratives” as the future potential in this collaboration. The NRS response identified the future potential of collaboration with education will involve more collaboration with local organisations, and with other national institutions such as the NLS and the NMS. The respondent stated that pooling their resources on commonalities such as migration, empire and World War Two had enormous potential for collaboration between the NLS, NRS, and the NMS with the intent of supporting education. There were numerous similarities in how the NRS and NLS approach their respective collaborations with education: from the relationship built with teaching professionals including both individual teachers and Education Scotland; to the lack of risk sharing and retention of authority by the national institution; the desire for more collaboration on community level with local information sources (namely local archives and libraries); the promotional activities and outreach methods via social media and attending educational conferences or events; and the process of designing resources wherein the staff in the organisation create content and a teacher provides relevant learning material to accompany them.

4.4 Educator Interview Findings

4.4.1 Educator Sample

The interview began with a question on how long each had been a teacher, in order to capture demographics and evaluate if this was influential or significant to the findings of this

study. The results of time working in education ranged from twenty-four years to five years. However, perceptions of both the *Learning Zone* as an educational resource and the National Library of Scotland collaborating with education were not found to vary according to time spent as a teacher. Similarly, no trends were found in responses and the subject each participant taught.

Prior awareness of the Learning Zone was mixed. Three categories of prior awareness emerged: those who had knowledge and experience using the resource (28.6%); those who knew of the resource but had never utilised it (28.6%); and those with no prior knowledge of the resource (42.8%). Those who had previously used the resource were interested in Scots language and had used the Learning Zone extensively for its *Scots language wi Oor Wullie* resource.

4.4.2 Perceived benefits for teachers

Whilst perceptions of the idea of the Learning Zone and the collaboration between the NLS and the education sector were entirely positive, the perceived value of the content of the Learning Zone varied. One participant compared the *Learning Zone* to other digital resources they have experience utilising and stated:

they] put together a whole programme for schools ... that links to our expectations and outcomes from the curriculum. And the resources, there's more to them, Basically, you could say you could get [your pupils] in front of it for 20-25 minutes, and they could get on with it. I felt the ones that the library made would be done in minutes. (Dean)

The primary concern identified within this interview was that, as a resource intended to be for learners, pupils, parents and teachers, it was attempting to do too much, and the content was insufficient for in-school education. Another interview participant highlighted similar issues in the Learning Zone by stating it was providing engaging content for pupils, without backing it up with "necessary information to help teachers to implement it" (Elaine). Chris stated that the Learning Zone, whilst having useful information and resources, was not as straightforward as other digital educational resources and since it required more time to explore and find useful content, time-limited teachers may not be capable of fully exploring the site. Additionally, Chris noted that secondary school history teachers typically plan their lessons and what they wish to teach, before finding sources that can fit into their existing plans, which the layout of the Learning Zone makes challenging since the focus on providing information and learning content detracts from the original source material.

However, one participant with no prior awareness of the Learning Zone found the resource so valuable they arranged a meeting with the headteacher of their school in order to discuss implementing the resource in their primary school. When speaking of the benefits of the Learning Zone, specifically the Project Blaster section, she stated:

I think it's amazing and I feel really disappointed that we as teachers aren't aware of that resource. ... I'm amazed at how well its laid out. Honestly its brilliant and the way it's linked to all the [CfE] experiences and outcomes. It's a really well researched resource .. If we were aware of it we would be using it. It is kind of a hidden gem (Elizabeth).

All interviewed teachers responded positively to the idea behind the Learning Zone – a National Library created educational resource for educators and learners – but the content received mixed results. Dean stated that he had been excited to hear of my research and learn of the National Library collaborating with education, “because it's the National Library obviously all teachers want to support it”, but the layout of the Learning Zone was not teacher-friendly, and the content was not substantive enough. Every educator interviewed remarked that a resource like the *Learning Zone* is beneficial and enriches the learning experience for both educators and their students.

4.4.3 Difficulties in identifying signposting

Understanding who the resource was targeted for was a prevalent issue in how teachers perceived the resource. On the *Scots language wi Oor Wullie* and *Project Blaster* sections specifically, there were difficulties interpreting what age group and education level the resources would be useful for. Rachel stated it was “not the most educationally sound material she had ever seen” but it provided a useful beginning point to Scots language and would benefit upper primary education where there are no set texts to determine what teachers do. Dean reported that *Scots language wi Oor Wullie* was too simplistic for second level primary education (primary 5 to 7) and would only be relevant for early and first level (primary 1 to 4). One participant stated that *Project Blaster* was an exceptional tool for first level primary teachers since it was “student-led, independent, and encourages critical thinking skills” (Elizabeth) and could help imbed important understanding of locating and analysing sources early in the learning process. However, several participants believed that there were no resources for early and first level primary education and that only teachers in later primary school or secondary school could really reap the educational benefit of the resource. Elaine stated that on the first look through the site they were disappointed that such a valuable

resource “could only be useful to teachers from second level onwards”. Carol thought the *Learning Zone* was useful for education, but as a teacher of early years and first level primary students, it offered no content relevant to her teaching, and issues of language and source accessibility would prevent usage of the resource within first level education. Interviews with NLS staff found that the earliest the *Learning Zone* was intended for was second level education, since it was “based on NLS collections and [the NLS] do not really have anything for below that” (Michelle). The discrepancy between the target audience of the *Learning Zone* resources and the teacher’s perceptions of who the site was intended for was particularly apparent with primary teachers. Secondary teachers (Chris and Diane) reported that within a secondary school educational context, the *Learning Zone* would only be useful for first to third year pupils, before set texts and examinations become integral to education.

4.4.4 Linking to Curriculum for Excellence

All participants reported that mapping the *Learning Zone* content onto the Curriculum for Excellence subjects, Experiences and Outcomes were important for the resource to be valuable. However, there was different measures of how successful the NLS has been in achieving this. Chris stated that:

I mean., ‘Lifting the Lid on Scottish Food History’? I don’t know any teachers who would teach that. ... it should be linked to the curriculum otherwise what is the point? I know of a university who created a fantastic resource on Thomas Muir, the Scottish revolutionary. No one teaches it .. no school is going to use that. It’s just a waste of money (Chris)

Chris then explained that, instead of having resources on areas of little use to educators, the NLS should work with teachers to generate new topic ideas and find the gaps in existing resources. Many teachers are eager to diversify their teaching and include rich histories of Scottish people of colour (particularly Scottish South Asian, Caribbean and African communities), but lack of resources for these areas of Scottish history is currently an issue educators experience. When asked about the future potential of the digital collaboration between the NLS and education, every educator interviewed indicated linking to Curriculum for Excellence as an important factor for future collaboration to consider. Elaine stated that the collaboration was beneficial and worthwhile, but any potential development for collaboration in the future “must emphasise Curriculum for Excellence” to a greater extent. The method of lesson-planning, particularly in primary school settings, involves a constant awareness and

integration of Curriculum for Excellence's Experiences and Outcomes. Carol explained that the Learning Zone needed to be linked to the CfE Experiences and Outcomes owed to the changes in how teachers are engaging with their students. In the past, teachers would research for information on a subject and then share it with children. However, Carol explained teaching practice now is more interested in facilitating learning needs over subject knowledge and helping children learn about finding material, using evidence and engaging with information is a higher priority. Carol provided an example of a project on Vikings and stated that instead of giving children information about Vikings and then doing learning activities with this teacher-given information, the emphasis is more on helping the children find the information on Vikings themselves. Elizabeth reported the linking of *Project Blaster* to the Curriculum for Excellence Experiences and Outcomes as a significant benefit of using the *Learning Zone* in education. Three educators noted that some areas of the Learning Zone are directly linked to Curriculum for Excellence Experiences and Outcomes, but its application is inconsistent across the resource which directly affected how useful it was perceived by Scottish teachers.

4.4.5 Promotion and Outreach

Lack of promotion was identified as a key reason behind the low awareness of the resource. The NLS staff interviewed discussed the promotion of the *Learning Zone* as primarily being via social media, events and conferences, linking with other organisations, and the NLS newsletter. However, all educators interviewed reported issues with the Learning Zone's promotion. Chris, who added he is active in planning and attending Scottish educational professional events, has only seen the NLS once at an event in his career. In comparison, other Scottish libraries or information organisations (such as the Glasgow Women's Library, the National Museum of Scotland and Glasgow Life) regularly attend events and promote their resources to teachers, including what they offer, how to use them, and how it can benefit educators. Additionally, Carol reported never having seen any twitter presence from the National Library and advised that teachers regularly use twitter for generating new ideas and learning from other teachers. No participant reported reading the NLS newsletter. Two participants stated that for more teachers to be aware of the resource, the NLS should do more direct engagement with schools and local libraries to promote and encourage usage of the resources.

4.4.6 Role and reputation of the NLS

All interviewed teachers responded positively to the National Library of Scotland and its involvement in education. When asked what kind of role the NLS could play in education, teachers responded sharing the “important values of literature and heritage” (David), and “encouraging children to read and helping fight disengagement” (Elizabeth). Responses to what role educators believed the NLS could play in education were intricately connected to the reputation of the National Library. The library was identified as having a reputation for reliability and “more valued than Google or most other sources” available online (Rachel). David stated:

“It’s a grand title isn’t it? The National Library of Scotland ... I think ‘Isn’t that great? That we have these things. If I was here on holiday, I would see Scotland’s values on literature and inspiring people”

The values attributed to the NLS (commonly literature, culture, heritage) were frequently referred to by teachers. The role that the National Library of Scotland could play in education was facilitating more Scottish literature and heritage in Schools (Elizabeth, Chris) and an ideal combination of teachers desire to support government and public services and imbed the values of reading culture and appreciation for literature in Scotland’s young people (Dean). This value-centred discussion was integral to perceptions of the Learning Zone, most notably in the discussions of Scots language. The language is currently experiencing a cultural revival, and some teachers believed the *Learning Zone* could help facilitate the integration of Scots into education beyond “tokenistic lessons in January” (Elaine). All interviewed participants with an interest in Scots language believed that the *Scots language wi Oor Wullie* resource by the NLS could help fight the stigma. With regards to the NLS reputation and how it can benefit the fight against this stigma, David stated that through creating these Scots resources the NLS is showing it values Scots and supports it, and the “esteem” the NLS carries could make teachers view the language more positively.

4.4.7 Library sector in education

Several teachers, when asked of the role the NLS could play in the education sector, reported utilising their local libraries and developing connection with the library sector more broadly. Of the seven interviewed, four indicated they value library input in education and regularly utilise their local libraries when possible and wish to include libraries more significantly in their teaching. Only two of the participants had a school library in their

workplace. Four teachers discussed the current issues in engaging with libraries, including literature alone not being engaging enough for older children, and the limited resources of the public library meaning interaction between the school and local library were primarily for accessing reading material. Dean stated that all teachers value literature and value libraries, but the limited budgets and resources available from local libraries has limited their usage by school teachers. The National Library was continually referred to by teachers within the wider library sector, or a “partner of public libraries” (David). The digital *Learning Zone* resource was praised for improving accessibility and allowing schools from all over Scotland to access the NLS materials. However, the role of public libraries was discussed by several teachers (42.8%) as a future collaborative partner within education and the NLS. These teachers suggested the NLS working with local libraries to promote the *Learning Zone* or to create localised resources would have a greater chance of increasing the connections between the library and education sector, as opposed to the NLS working alone.

4.4.8 Value and fluidity of resources

Response to the Learning Zone was positive overall. Three participants stated they would not use the resource in its current form, owed to it being too simple with not enough content (Dean), inapplicable to early and first level education (Carol), and the lack of original source materials and complexity of layout (Chris). However, despite stating they do not intend to utilise the resource in their teaching, all participants agreed it was a great resource to have and the NLS being involved in education was a valuable collaboration for both the library and Scottish education. When asked about what the benefits of the Learning Zone are, every participant the fluidity of resources and the ability of teachers to utilise specific elements or ideas of interest, instead of a rigid resource that needs to be utilised in its entirety. The various formats of resource, from the interactive games and comic strip on *Scots language wi Oor Wullie* to the pdf of classroom discussion questions on other sections, were similarly noted to be a positive element of the resource. Six teachers remarked that resources with fixed stages (similar to the Croatian National Library digital resource, discussed in section 2.6) were unhelpful for teachers and uncompliant with how Scottish teachers use digital resources. The fluidity and ability to selectively utilise elements of the *Learning Zone* was frequently praised. Elizabeth, the only teacher who did not remark on the fluidity of resources, was primarily interested in the *Project Blaster* section, in which there are six distinct stages of the project to work through. Of the seven teachers interviewed, two (28.6%) have used and will continue using the site, three (42.8%) will not use the site, two (28.6%) were unaware of the site but

intend to use it in their teaching. The perceptions on whether the *Learning Zone* was valuable were consistent across all participants, regardless of existing familiarity and whether or not the participant would personally utilise the resource or not.

4.5 Chapter Summary

This chapter has highlighted the key findings of interviews with both NLS staff and educators. The findings from NLS interviews showed clear preference for the term 'collaboration' to describe their work with the education sector. These findings outlined the process through which the *Learning Zone* is created and maintained, the relationship the NLS has with their collaborative partners from education, the future potential for the resource and the perceived role of the NLS in education from those within the organisation.

The findings of interviews with teachers showed how the NLS and the *Learning Zone* resource is viewed by Scottish educators. These findings also highlighted several key complaints of the resource, including its inconsistent attempts at signposting and linking to Curriculum for Excellence.

Chapter 5: Analysis

The preceding chapter highlighted the key findings of this research from teachers and NLS staff separately. A thematic analysis was utilised to identify the prominent themes from both sets of interviews. This section compares and analyses the findings from both NLS staff and teachers.

5.1 Collaboration vs Cooperation

The first research questions this dissertation set out to analyse was:

To what degree is the National Library of Scotland collaborating with the education sector, as opposed to cooperating or coordinating?

This research question set out to evaluate where the NLS and education sector collaboration fell within Zorich, Waibel and Erway's (2008) understanding of the collaboration continuum. The definitions of each term utilised in this dissertation (section 2.1) were broken down into their defining characteristics, which provide a clearer distinction of their differences and similarities. When considering the defining characteristics of each term (Table 2), it is clear that this collaboration borrows characteristics of several terms (namely collaboration and coordination). The collaboration continuum is arranged in ascending order from most informal relationships (partnerships) to formal relationships (collaboration and convergence).

The formality of a collaborative relationship is dependent on: establishing common strategic aims and creating a structured relationship with a set objective, shared resources, mutual sharing of risk, shared reward and mutual benefit of the endeavour, and development of infrastructure for the collaborative project and maintaining communication throughout (Mattessich & Johnson, 2018, p. 5, 79). The concept of a formal vs informal collaborative relationship complicated this research, as the collaboration between the NLS and education can be both informal and formal depending on their partner.

The relationship between the NLS and Education Scotland can be seen as somewhat formal, owed to shared values and objectives. One participant from Education Scotland stated the collaboration was an "obvious link" and that the relationship is understood to be "mutually beneficial". Mutual benefit is a sign of a more formalised collaborative relationship and can be perceived through each organisation involved sharing missions and goals, and the resources and benefits of the project being shared and beneficial to all involved.

Term	Defining characteristics
Partnership	Initial stage of planning; informal relationship between two organisations or parties; no consideration of organisational strategic aims
Cooperation	Informal relationship; largely between two individuals instead of organisational level; no shared risk; resources and authority are held separately; no strategic aims or objectives taken into consideration
Coordination	Largely individual-based links but with organisational backing; more formalised relationship; compatibility is established through evaluation of missions and objectives of each organisation; risk largely held by one party; rewards are mutual
Collaboration	Formal relationship; compatibility of goals and strategic aims are considered; new strategic aims are developed; risk is shared equally across all parties; resources and end-product are shared; mutual benefit
Convergence	Formal relationship; deeply imbedded into the organisations to the extent it is no longer seen as collaborative working; new resources and infrastructure are created to support the project

Table 2: Defining characteristics of the different terminologies within the collaboration continuum. Definitions for partnership taken from Vincenza-Daurio, 2010, p.7; cooperation, coordination and collaboration taken from Mattessich and Johnson, 2018, p.79; convergence taken from Zorich, Waibel and Erway, 2008, p.12.

The participant described the role of both national organisations as being “value centred”, stating that it is not just about the resources but sharing the values behind them and investing in the ideas they represent. In this regard it is evident that the Education Scotland and National Library of Scotland collaboration can be defined as mutually beneficial. Both organisations share similar objectives regarding education and collaboration. The 2015-2020 NLS strategy is explicit in its support for collaboration and supporting education, stating:

“We collaborate with and support the work of universities, other cultural institutions, the education sector and business.” (NLS, 2015, p.11).

The 2019-2022 Education Scotland strategy refers to collaboration as essential for improving “excellence and equity in Scottish education” (Education Scotland, 2019, p.14). There is a clear shared mission and aims within the strategies of both organisations. This suggests the collaboration between NLS and individuals from Education Scotland have considered the strategic aims of each organisation and compatibility, a sign of a more formal collaborative relationship.

However, collaboration with teachers is evidently more informal. NLS staff described their relationship with educators as reliant on one-to-one connections, often with a singular teacher, and no organisational guidelines or structures to formalise the relationship. Vincenza-Daurio (2010) found that, within the context of their case study, library professionals engaged in collaborations preferred informal relationships since it allowed for shorter-term projects, less bureaucracy and overly-formal, structured relationships were more complex and required more time and resources (p.63). The National Library staff interviewed did not express similar views to those represented in Vincenza-Daurio’s study. The lack of organisational guidelines and evaluative tools were identified as an issue for their collaboration with the education sector. Jane stated that owed to lack of formal guidelines and structure, there can be misunderstandings about what each participant involved has agreed to do for the project. The second individual from Education Scotland interviewed (without personal experience of collaborating with the NLS) noted that the Learning Zone could be improved if the NLS formalised its relationship with Education Scotland, stating “it needs to be more strategic”. Both NLS staff expressed a desire to formalise their collaborative relationships with representatives of the education sector, whether it be with Education Scotland or individual teachers, suggesting the informal relationships is felt by those involved.

Similarly, an informal relationship could be evidenced by the lack of risk sharing across collaborators in this case study. However, it is difficult to perceive any form of collaboration at this national level in which the NLS shares the burden of risk with their educational collaborators. Particularly whilst working with individual teachers, it is understandable that risk and responsibilities are not shared equally between partners. The NLS invest finance, staff time and effort, storage and web space into creating and maintaining the Learning Zone. The input of educators is significantly less, since they contribute time and expertise with no burden of responsibility or financial input. The NLS staff were conscious of the lack of risk sharing, since

they are the authority responsible for the resource. Collaborators who work on the *Learning Zone* do not receive financial payment for their input. The relationship can largely be characterised as idea generation, wherein an educator will create ideas for learning activities and link the content onto Curriculum for Excellence.

Utilising the defining characteristics of each stage in the collaboration continuum (Table 2), the relationship between the NLS and the education sector can be defined to be 'coordination'. As the mid-point of the continuum, coordination is the closest term to describe the *Learning Zone* project. Through the data collected from the NLS and the collaborator from Education Scotland, the relationship can be described as largely individual but supported by organisations involved. This is applicable to both their work with teachers and Education Scotland, since they both rely on developing individual relationships. Additionally, compatibility is established in a formal sense through evaluation of strategic plans and objectives (as with Education Scotland) or through connecting with individual teachers on their expertise areas and describing the benefit of collaborating with the NLS. Cooperation does not involve sharing of risks, and responsibility can be held entirely by one party. Owing to connecting with individuals interested in either subject areas or digital resources more broadly, the relationship can be said to be mutually beneficial.

Whilst the term cooperation is easily applicable in this case study, it does describe some limitations in the applicability of the continuum theory into the national, cross-sectoral context. The NLS staff expressed clear preference for the term collaboration, and their work does meet some of the criteria of the collaboration stage. Similarly, the findings from the NRS enquiry demonstrated that this attitude and experience with collaborative working is not unique to the NLS. The NRS respondent reported collaboration to be a preferred term, and they retain all authority and responsibility in the final resource. Vincenza-Daurio (2010) reported that terms are often viewed interchangeably within library partnerships and some terms (such as collaboration) can be used to describe the entire range of relationships on the continuum (p.64). The basis for evaluating the collaboration between the NLS and the education sector is derived from the Wilder Collaboration Factors Inventory (Mattessich & Johnson, 2018, pp.59-61). This inventory features 22 different categories of questions for all members to evaluate the effectiveness of their collaborative projects. Both of these measures – the collaboration continuum and the inventory – are effective from a theoretical standpoint for evaluating effectiveness. However, their applicability into real collaboration and situational case studies presents some limitations. This case study of the NLS (and its closest comparison, the NRS)

shows the inapplicability of prominent collaborative theory into the national context. The literature cited through the literature review highlighted risks, decision-making and authority, and pooled resources to be essential features in how collaboration is researched, understood and implemented. However, within national, digital collaborative work, these factors are relatively irrelevant. The collaboration continuum holds some value for interpreting and analysing the relationship between the NLS and the education sector, but it presents some limitations of this case study (further discussed in section 6.2.1).

5.2 Awareness of the Learning Zone

The second research question this case study sought to analyse related to the promotion and the awareness of the *Learning Zone*. Without a more wide-reaching survey of Scottish teachers this was difficult to gauge. Of the seven educators interviewed, 57.1% were aware of the resource prior to participating in this research. Those who were unaware of the resource (42.8% of participants) all reported never having seen promotions or outreach by the National Library. The promotional tools utilised by the NLS (namely social media, attendance at events, and NLS newsletter) all were unobserved by these teachers, who are part of the target demographic for the resource. It is noteworthy that the three teachers with no knowledge of the resource are all very active on social media, particularly Twitter and Facebook, and social media usage within and outwith classroom teaching has become a major developing trend within the education sector in recent years (Blaschke, 2014, p.1). These three participants were recruited via advertisements and links shared on Twitter. One participant, Dean, reported that he utilises social media (Twitter, Facebook and Instagram specifically) in order to generate new ideas, and actively seeks out new resources that he can adapt and apply to his teaching. Carol reported never having seen a social media presence from the National Library of Scotland and was unaware of any NLS Twitter accounts. Of the seven participants, only two were not active on Twitter (though each did have a personal Twitter account). The NLS staff stated their social media promotion was good, and they get a lot of traffic and engagement on Twitter. Whether they were discussing the main NLS twitter account or one of its many branches for specific departments is unknown. The NLS Corporate Library Plan 2018-2019 states it will:

“engage with our users and audiences as partners, collaborators, and supporters, seeking opportunities for them to reuse our content and participate via social media and crowdsourcing” (NLS, 2018, p. 13).

The NLS is explicitly supportive of social media and has desire to work with audiences more directly. All educators who participated in this research follow the social media accounts of other Scottish educational bodies (such as Education Scotland and the General Teaching Council for Scotland). The participants reported lack of promotion and outreach by the NLS as a significant reason they were unaware of the resource. The discrepancy between the push for social media promotion by the NLS and the lack of engagement from the teachers who participated in this study suggests the existing social media strategy for promoting the resource is somewhat ineffective.

Similarly, all teachers interviewed suggested direct working with schools would be a more effective promotional tool and would entice more teachers into using the site. There were different approaches suggested on how the NLS could achieve this: through engaging with schools, both teachers and pupils, in the creation of Learning Zone content (Dean); running focus groups and idea sessions where multiple teachers get involved in generating ideas and creating new resources (Chris); creating a Learning Zone mobile application and running in-school training sessions for teachers to learn how to use it (Elizabeth); and working with school librarians and teachers combined to make new resources and get educator and non-educator insights (Rachel). A common insight from teachers was the need for more than one teacher to be involved in the creation of the resources for the Learning Zone. Chris argued that having multiple teachers involved in the process allows for better resources since you can get a range of teacher's insights and styles, closer linking to Curriculum for Excellence, and the end product would have a group of teachers ready to recommend the resource to their peers. Research into information seeking behaviours of teachers supports that when looking for new resources or information, teachers tend to look to other teachers and immediately available resources first (Williams & Coles, 2007, p.818; Gwayi, 2016, p.20). The lack of time for researching and exploring new resources means that teachers would largely not find the resource themselves and require more effective promotions and outreach with educators. When asked about the NLS newsletter, all teachers reported not reading it (with 71.1% being entirely unaware the NLS had a newsletter). The promotion and outreach work done with the *Learning Zone* is understandably inhibited by the small amount of staff who work on the resource. However, it was evident that the existing methods are somewhat ineffectual for reaching Scottish educators, part of the target audience for the resource. A combination of social media (with increased linking to educational accounts and organisations), public and local organisations (such as schools, libraries and local government resources) and increased attendance at education events would be a more effective strategy for promotion.

The initial intent of gauging awareness of the Learning Zone resource was beyond the scope of this research (discussed further in limitations section) owed to the methodology utilised. Whilst this sample can not be defined as representative of the wider scope of Scottish teachers, the recruitment of teachers somewhat correlated to how the NLS promoted the Learning Zone (linking with educational bodies, and social media) and how teachers reported finding resources (social media, and relationship with other teachers). This provides useful insight into awareness across the promotional methods utilised by the NLS, and suggests low levels of awareness which requires further study.

5.3 Perceptions of value

The final intention of this research was to uncover whether this collaboration and digital educational resources are perceived as valuable by both the NLS and Scottish educators. Whilst response to the content of the Learning Zone was mixed, views on the collaboration between the NLS and the education sector were positive from all participants. Furthermore, many teachers reported usage of digital resources in their teaching wherever possible (limited technology within the classroom was cited as the only reason for not utilising digital resources).

The approach to learning theory utilised in this research was Social Constructivist and scaffolding theories. The interviews with Scottish teachers highlighted alignment between the key points of this theory and implementation of the Learning Zone. Social Constructivist Theory holds the social interactions a child has (whether with parents, peers, or teachers) as central to their education and development (Jumaat and Tasir, 2014, p.74). The resources held on the *Learning Zone* are a combination of student-led, independent tasks and activities for teachers to implement in the classroom. Scaffolding education is a learning technique wherein the educator constructs learning infrastructure to support children which is then gradually removed as the child learns and develops independent skills (Doyle-Jones, 2015, pp.37-8). Scottish primary teacher's perceptions of the *Learning Zone* were seemingly aligned with scaffolding technique. Particularly regarding the *Project Blaster* resource on information literacy, the discussion of the resource highlighted the significance of student-led, independent skill building. Elizabeth stated the resource was useful since it encourages students to be independent and provides a clear step-by-step structure for teachers to begin imbedding literacy and critical thinking skills early in the learning process. The implementation of the resource would involve some element of teacher instruction (in line with Social Constructivist Theory) before independent project-work for each student. As the child's literacy and

independence develops, the teacher does not need to provide as much support and guidance and the learning infrastructure of teacher instruction can be gradually removed. The issue of library disengagement as a result of digital resources (Secore, 2017, p,6) proved not to be an issue with this specific resource. This research initially theorised that a resource created, designed and maintained by the National Library would alleviate any library disengagement that may arise with prolonged use of digital resources in education. Utilising a library resource could, instead of driving users from the library towards digital tools, allow a new way of engaging with the library.. This was ultimately proven accurate through the qualitative data gathered through interviews in this case study. The NLS was seen as valued by teachers owed to its values, its ability to imbed Scottish heritage, culture and literature into children's experiences of education. Furthermore, teachers were eager for more collaboration between the library and education sector on both a national and local level. Similarly, NLS staff believed that digital resources could help teachers to instil an appreciation for the National Library into their students, essentially the next generation of library users. Participants from rural areas reported excitement for digital resources to extend into education, since it would provide new opportunities for their school children to access the National Library and spread wider appreciation for the NLS. Providing access was identified as a key benefit of the digital collaboration between the education sector and the NLS. Therefore, Secore's (2017) judgement that digital resources will negatively impact library engagement is clearly not applicable to resources offered by libraries. The digital collaboration was commonly discussed by teachers to be a beneficial, value-centred enterprise. The dissemination and sharing of the values of the NLS (identified as an appreciation for Scottish literature, culture and heritage) was a commonly cited benefit of the National Library becoming a collaborative partner of the education sector. The collaboration between the education sector and the National Library is an important and valued endeavour by all involved. Teachers value literature and information, and so collaboration with the National Library to help share and instil these values in young people is aligned with their professional aims.

One critique of the *Learning Zone* was in relation to its content and layout. The lack of explicit signposting and linking to Curriculum for Excellence was the primary deterrent identified in why teachers may not implement the resource in their teaching. The subject content of the resource was critiqued for being too far from the Curriculum. This was especially apparent in the secondary education context since set text and examined topic areas limit what teachers are capable of teaching. Scottish secondary teachers follow course specifications in order to determine what subjects they are allowed to teach for each level. Through a

comparison of the History National 5 Course Specification, the guidelines for what topics teachers can incorporate into their teaching for this level, there is clear lack of correlation with the Learning Zone. Only three of the sections on the Learning Zone's History page – *Women's suffrage*, *Women in the Great War*, and *Emigration* – are connected to the subjects that can be taught as part of National 5 History classes. The course specification has five sections on Scottish history, five on British history, and ten for European and World history. Whilst the History sections on the Learning Zone do not specify if they are intended for National 5 level, the comparison between the resource and the set curriculum for history education is immediately apparent. Without linking more directly to the curriculum, teachers are immediately limited in the ways they could ever utilise the resource. This suggests a limitation in the *Learning Zone* design process. Through the process described by NLS staff and their collaborator from Education Scotland, it appears the content is largely created, based on NLS collections, and then teachers are brought in to supplement it with learning material. The lack of Curriculum for Excellence topic areas can be attributed to this design process. The interview data collected from the sole history teacher who participated in this research demonstrated desire for more unique and diverse resources of which there are few existing resources available. This suggests the need for further digital collaboration with teachers in order to determine new topic areas for the NLS and get educators involved in the design stage. The cooperation between the NLS and the education sector, and the concept behind the *Learning Zone*, were perceived as valuable by all participants. However, in order for the Learning Zone to actually be a valuable and useful resource for education, changes to how it is designed and how collaborators are involved in the process would be necessary.

5.4 Chapter summary

This chapter summarised the analysis of the findings from chapter four in relation to the research questions. Overall, this analysis showed there is perceptions of value in the digital collaboration between the NLS and the education sector, but awareness of and perceptions of the *Learning Zone* are somewhat mixed. This analysis also highlighted various avenues for further research in which the following chapter expands further. This case study is fairly exploratory in nature, this analysis mostly established a basis on which further research would be necessary.

Chapter 6: Recommendations and Conclusions

This section begins with summarising the recommendations of this research, before discussing the limitations of this case study and the scope for further research. This chapter also concludes the research.

6.1 Recommendations

Following analysis of the data, recommendations on best practice for digital collaboration between national libraries and education were compiled and summarised below.

6.1.1 Relationship building

The process of establishing collaborative partners was found to be somewhat informal, relying on individual relationships with teachers and representatives of Education Scotland. The interpersonal component is essential to all collaborative relationships (formal and informal alike) and the methods utilised in establishing effective working relationships can determine the success of any collaborative effort (Vincenza-Daurio, 2010, p.20; Mattessich & Johnson, 2018, p.59). The NLS cooperation utilises more informal methods for recruiting teachers to participate and the relationships developed are on a one-to-one basis. There are some benefits of a more informal relationship (discussed in section 5.1) however, both NLS participants reported a desire to reflect and evaluate how they work with teachers in order to create a more structured system of collaborative working. By formalising the relationship between the NLS and the educators involved, expectations and intended outcomes can be more effectively managed, and each partner will understand their role and their contributions more plainly. Utilising a more structured approach to beginning new collaborative relationships would be beneficial for any further national library partnerships since it would allow a more strategic evaluation of collaborations from the start.

6.1.2 Promotion and outreach

Whilst the National Library of Scotland reported it had various different avenues of promoting the Learning Zone to teachers – namely attendance at education events and exhibitions, social media, NLS newsletter and website – teachers interviewed were unfamiliar with these promotions and had little to no personal experience seeing them. This suggests potential flaws within the promotional and outreach strategies, since the teachers interviewed

largely fell into the intended audience of those advertisements. Chowcat et al (2014) noted that an effective social media strategy can engage wider audiences and help make resources and collections more discoverable (p.3). Whilst the National Library of Scotland has an active social media presence overall, content relating to the Learning Zone resource should be more interactive with the Scottish education sector. Connecting with educational organisations - such as the General Teaching Council for Scotland, the Scottish Association for Teachers of History and Education Scotland - via social media could massively expand the reach of the NLS Learning Zone twitter presence and promote the Learning Zone to significantly larger audiences. Implementing a more strategic social media promotion for the Learning Zone could help combat its limited awareness and encourage more teachers to explore and utilise the Learning Zone.

6.1.3 Collaboration theory

The lack of evaluative frameworks was identified as an issue in understanding the effectiveness of the collaboration between the NLS and education. As the analysis of findings previously demonstrated, this case study fell into the coordination stage of the collaboration continuum. Vincenza-Daurio (2010, p.12) found that within the library sector, the terms were often used interchangeably with little perceptible difference in practice. However, the theory and discourse on collaboration and how it is defined are integral to evaluating the effectiveness of a collaborative project. During the interviews, the NLS staff were both interested in the processes of evaluating their *Learning Zone* project. Whilst the work the NLS is doing with education can be described as effective (further discussed in the conclusion, section 5.3), implementing a more theoretical approach to collaborative projects could significantly improve their work in the future. The Wilder Collaboration Factors Inventory (Mattessich & Johnson, 2018, pp.59-61) is a survey to rank every element of developing and maintaining a collaborative project and working relationship. The NLS could utilise the Wilder Inventory to evaluate their projects and identify any potential areas that need improvement. The Wilder Inventory is intended to be utilised by both parties involved in collaborative working and could be used both by the NLS and the educators involved in the Learning Zone. Implementing some of the collaboration theory into practice would allow for a more evidence based approach wherein evaluation is integrated into the entire collaborative process.

6.1.4 Curriculum for Excellence

The *Learning Zone* was designed to be compliant with Curriculum for Excellence (CfE). However, insufficient linking to the curriculum was a common critique of the Learning Zone by teachers. The lack of linking to course specifications suggests limited usability of the resource within upper, secondary school education where set texts and topics approved for examination determine the subjects of a teacher's lessons. The NLS have a quota of three new sections to be added to the *Learning Zone* each year and one recommendation would be to evaluate the course specifications or seeking teacher insight into what resources they would wish to see in order to decide on their new content. This could integrate teachers into the collaborative process more successfully and improve the usefulness of the digital educational resource.

6.1.5 Signposting

Another critique of the resource was its lack of signposting, which caused misunderstandings on who the resource was intended for. This was identified as a concern by NLS staff and educators and is a potential barrier to usage of the *Learning Zone*. Implementing a more robust signposting system – whether by designated tabs on each section for resources specific to teachers or creating a designated teaching zone (as recommended by one participant) – would alleviate the confusion surrounding some of the resources. This was an issue regarding primary education resources in particular, wherein the differences between first and second level teaching material are immediately apparent. Accessibility of material, depth of the content, and language utilised are important concerns with finding age-appropriate learning resources. Introducing more direct labelling of resources with explicit reference to age group and appropriate education level would help improve understanding of the resource and how it could benefit teaching.

6.1.6 Teacher involvement

One finding of this research was the limited involvement of teachers within the Learning Zone design process. As the relationships between the NLS and education rely on one-to-one connection, the range of teachers involved is fairly small. Teachers interviewed however expressed a desire for more teacher engagement with generating ideas and designing learning content for the Learning Zone, either through getting schools involved, or using focus groups to

gain teacher insights and feedback prior to releasing the resource. Utilising focus groups can be an effective method for qualitative data collection and idea generation within education environments (Breen, 2006, p.464). Whilst the NLS works on limited time frames and arranging regular focus groups with teachers may be difficult, gaining the insight of a range of teaching perspectives would benefit not only the design and content of the resource, but the robustness of the learning materials provided. Gaining the additional insights would allow for the materials to be designed according to a range of teaching styles and experiences, and the issues of linking to the Curriculum and appropriate levels could be somewhat alleviated.

6.2 Limitations and scope for further research

6.2.1 Case study limitations

One significant limitation of this research was owed to it being a highly specific case study focusing on one department in one national library. Vincenza-Daurio (2010) noted that case studies provide valuable insights into library collaborations, owed to the high variables and lack of uniformity from one collaborative project to the next (p.12). Whilst this case study was useful in providing insight into the cooperation between the National Library of Scotland and the education sector, more similar case studies on other national libraries are required in order to gain more generalisable and representative results. This case study has begun to fill the gap in research into this area, but without other case studies to draw comparison with, the results cannot be representative of the nature of national library and education collaboration. Similarly, the difficulties in applying the theoretical discourses on defining collaboration in this case study requires further case studies of similar national libraries in order to evaluate if it is unique or a trend in national-level collaborations.

6.2.2 Small teacher sample size

The timing of this research similarly provided issues. Owed to recruitment of teachers occurring over the summer months, contact with teachers was difficult to sustain and a number of teachers either failed to respond to messages or dropped out. This led to a smaller than intended sample size, with only seven educators interviewed overall. The data collected from these interviews were insightful, but a larger data set would have yielded more points of comparison and further research with a larger participant sample would be required.

Additionally, gauging the awareness of the *Learning Zone* was difficult given this small sample size. A survey was initially considered but ruled out owing to: complexity of questions requiring many free text responses and a very long survey design; during the summer, lack of teacher engagement was an immediate concern; and evaluating perceptions of value would be difficult to achieve via survey. However, in order to understand the wider awareness of the resource throughout Scotland, a survey would be essential.

The subjects of teachers interviewed was similarly limited: Scots language (57.1%), English and literacy (28.6%) and history (14.3%). As the Learning Zone is applicable to many subjects, the advertisements for this research were left as broad as possible, with social studies, geography and languages teachers also being targeted for participation. This was in order to understand if the perceptions of value were in any way influenced by subject taught and provide points of comparison. However, recruitment attempts for these teachers were unsuccessful and received no engagement. Further research exploring the different perceptions of teachers in these subject areas would provide a more wholistic analysis of the Learning Zone as a resource. This case study, as a result of the small range of teaching subjects, focuses primarily on *Oor Wullie* (Scots language) and *Project Blaster* (information literacy). The perceptions of value of the resource were in relation to these areas – the one exception being the history teacher who discussed History content – and the rest of the site remains unanalysed.

5.3 Conclusions

This dissertation investigated how the National Library of Scotland is collaborating with the education sector, and whether this was perceived as a valuable endeavour by Scottish educators. The concept of the collaboration continuum – utilising Mattessich & Johnson (2018), Vincenza-Daurio (2010), Zorich, Waibel & Erway's (2007) definitions – underpins this research. Through an analysis of the literature on collaboration, from a variety of research areas, this case study attempted to examine whether the National Library of Scotland was truly collaborating with the education sector. This case study was largely exploratory as a result of the lack of similar case studies for national libraries. The existing literature in this area primarily focuses on community-level collaborations, and this case study was an exploratory analysis of how the existing understandings of collaboration can be applied to the national level.

Overall, teachers responded positively and saw value in the NLS collaborating with the education sector to create digital educational resources. Regardless of whether or not they

would personally utilise the resource, all teachers involved believed the NLS had an important role to play in supporting Scottish education and instilling values of respect for literature, art, heritage and culture in Scottish young people. The perceptions of the Learning Zone resource were intricately connected to the perception of the NLS, its values and its reputation.

The approach to learning theory utilised in this research was a combination of Vygotsky's (1978) Social Constructivist Theory and scaffolding techniques. Utilising these learning techniques together, the social component of learning through interaction remains central in a child's development, and the supportive infrastructure can be gradually removed as the child develops and gains independence. The NLS *Learning Zone* was found to support these learning approaches. Research into these theories and techniques are supportive of utilising digital resources within education. This research sought to determine the perceptions of value – with value being defined as something that enriches the educational experience and positively contributes to Scottish education – and the findings are aligned with the approaches to learning theory discussed. The most common positive perception of the Learning Zone was the way it supports student independence and provides teachers with materials to introduce new concepts and ideas to their students and help them build literacy skills in engaging and interactive ways. On the other hand, the negative perceptions of the Learning Zone were related to how teachers could utilise the resource. Without explicit signposting of appropriate level and the links to Curriculum for Excellence, several teachers critiqued the resource for being outwith the Scottish curriculum, or too simple for certain age groups.

In summation, this research found that both the National Library and the education sector are supportive and see value in the digital collaboration between these sectors. However, without a more sustained level of evaluation and educator's involvement, the usefulness of the resources is limited.

7. Bibliography

- Askin, N. (2015) 'Collaboration and Crowdsourcing: The Future of LAM Convergence'. UBC School of Library, Archival, and Information Studies Student Journal, Spring, pp.1-15.
- Bekkers, V. and Tummers, L. (2018) 'Innovation in the public sector: Towards an open and collaborative approach'. *International Review of Administrative Sciences*, 84 (2), pp.209-213.
- Bishoff, L. (2004) 'The collaboration imperative'. *Library Journal*, 129 (1), pp.34-35.
- Blandford, A. (2013) Semi-structured qualitative studies. In: Soegaard, Mads and Dam, Rikke Friis (eds.). "The Encyclopedia of Human-Computer Interaction, 2nd Ed.". Aarhus, Denmark: The Interaction Design Foundation. [online] Available at: <http://www.interactiondesign.org/encyclopedia/semi_structured_qualitative_studies.htm> [accessed: 9/02/2019]
- Blaschke, L.M (2014) 'Using social media to engage and develop the online learner in self-determined learning', *Research in Learning Technology*, 22, pp.1-23
- Braun, V. & Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3 (2), pp.77-101
- Brod, M, Tesler, L.E., & Christensen, T.L. (2009) 'Qualitative research and content validity: developing best practices on science and experience, *Quality of Life Research*, 18, pp.1263-1278.
- Brophy, P. (2007) *The Library in the 21st Century*. 2nd edition. London: Facet Publishing.
- Buchanan, S., Gibb, F., Simmons, S., & McMenemy, D. (2012) 'Digital Library Collaboration: A Service-Oriented Perspective'. *The Library Quarterly*, 82 (3), pp.337-359.
- Buber, M. (1970). *I and thou*. New York: Charles Scribner's Sons.
- Chowcat, I, Kay, D, Stephen, O, & Colbron, K. (2014) 'Making your digital collections easier to discover', JISC [online] Available at: <https://www.jisc.ac.uk/guides/making-your-digital-collections-easier-to-discover> (accessed: 09/07/2019)
- Clark, C., Moss, P.A., Goering, S., Herter, R.J., Lenoard, D., Robbins, S., Russell, M., Templin, M., and Wascha, K. (1996) 'Collaboration as Dialogue: Teachers and Researchers Engaged

in Conversation and Professional Development'. *American Educational Research Journal*, 33(1), pp.193-231.

Diamant-Cohen, B. and Sherman, D. (2003). 'Hand in hand: museums and libraries working together'. *Public Libraries*, 42 (2), pp.102–105.

Doyle-Jones, C.S. (2015) 'Importance of working collaboratively and risk-taking with digital technologies when teaching literacy', PhD thesis, University of Toronto.

Education Scotland (2015a) Consultation on the development of a digital learning and teaching strategy for Scotland: Supporting school years education. Edinburgh: Scottish Government. [pdf] Available at: < https://consult.gov.scot/learning-directorate/digital-learning/user_uploads/395855_p2.pdf> (accessed: 20/05/2019)

Education Scotland (2015b) CfE Briefing: Curriculum for Excellence; Scots language. Glasgow: Education Scotland. Available at: < <https://education.gov.scot/Documents/cfe-briefing-14.pdf>> (accessed: 25/05/2019)

Education Scotland (2015c) How Good Is Our School? Fourth edition. Livingston: Education Scotland. [pdf] Available at: https://education.gov.scot/improvement/Documents/Frameworks_SelfEvaluation/FRWK2_NIHeditHGIOS/FRWK2_HGIOS4.pdf (Accessed: 25/05/2019)

Education Scotland (n.d) Scotland's scientists: A Scots language resource – second level [pdf] Accessed: 5/06/2019. Available at: <<https://education.gov.scot/improvement/documents/scots4-scotlands-scientists.pdf>> (Accessed: 15/07/2019)

Education Scotland (2016) A statement for practitioners from HM Chief Inspector of Education, Edinburgh: Education Scotland [pdf] Available at: <<https://education.gov.scot/improvement/Documents/cfestatement.pdf>> (accessed: 15/07/2019)

Education Scotland (2019) Corporate Plan 2019-2022, Livingston: Education Scotland. [pdf] Available at: < <https://education.gov.scot/Documents/ES-Corporate-Plan-2019-22-new.pdf>> (Accessed: 10/08/2019)

Fabian, K, Topping, K.J. & Barron, I. G. (2018) 'Using mobile technologies for mathematics: effects on student attitudes and achievement'. *Education Tech Research Dev*, 66, pp.1119-1139.

- Gadja, R (2004) 'Utilizing Collaboration Theory to Evaluate Strategic Alliances'. *American Journal of Evaluation*, 25(1), pp.65-77.
- Gibson, Hannah, Morris, Anne; and Cleeve, Marigold. (2007) 'Links between Libraries and Museums: Investigating Museum-Library Collaboration in England and the USA.' *Libri: International Journal of Libraries and Information Services*, 57 (2), pp. 53–64.
- Guggisberg, L. S. (2015) Student perceptions of digital resources and digital technology in a flipped classroom, PhD Thesis, University of North Dakota.
- Gunn, H. (2002) 'Virtual libraries supporting student learning'. *School Libraries Worldwide*, 8 (2), pp. 27-37.
- Gwayi, S. (2016) Information needs and information seeking behaviours of teachers: A survey of selected secondary schools in Lusaka, Zambia, MLIS thesis, University of Zambia
- Hearld, L.R., Alexander, J.A., Wolf, L.J, and Shi, Yunfeng (2019) 'Where Do We Go From Here? An Examination of the Relationship Between Changes in Social Structure and Strategic Priorities in Cross-Sector Collaborative Organizations'. *Journal of Applied Behavioural Science*, 55 (2), pp.190-212.
- Iyamu, T. (2018) 'Collecting qualitative data for information systems studies: the reality in practice', *Education and Information Technologies*, 23, pp.2249-2264.
- John-Steiner, V., Weber, R.J., and Minnis, M. (1998) 'The Challenge of Studying Collaboration' *American Educational Research Journal*, 35 (4), pp.773-783.
- Jumaat, N. F. & Tasir, Z. (2014) 'Instructional Scaffolding in Online Learning Environment: A meta-analysis', 2014 International Conference on Teaching and Learning in Computing and Engineering, Available at: <
<http://www.computer.org/csdl/proceedings/lattice/2014/3592/00/3592a074-abs.html>> Accessed: 01/05/2019
- Kingsawat, K., Kwiecien, K. and Tuamsuk, K. (2015) 'Components and Factors in Integrating Information Literacy Instruction in Elementary Education Using a Virtual Learning Environment, *LIBRES: Library and Information Science Research Electronic Journal*, 25 (1), pp. 50-77.
- Latham, K. (2015). 'Lumping, Splitting and the Integration of Museum Studies with LIS'. *Journal of Education for Library and Information Science*, 56(2), pp.130-140.

- Line, M. B. (1989) 'National Library and Information Needs: Alternative Ways of Meeting Them, with Special Reference to the Role of National Libraries', *IFLA Journal*, 15 (4), pp. 306–312.
- Logsdon, J. M. (1991) 'Interests and Interdependence in the Formation of Social Problem-Solving Collaborations'. *Journal of Applied Behavioural Science*, 27 (1), pp.23-37.
- Marty, P.F. (2010) 'An introduction to digital convergence: libraries, archives, and museums in the information age', *The Library Quarterly, Information, Community and Policy*, 80 (1), pp.1-5
- Mattessich, P.W., and Johnson, K.M. (2018) *Collaboration: What Makes it Work*. Third edition. New York: Fieldstone Alliance.
- McKechan, S & Ellis, J (2014) 'Collaborative learning in the Scottish curriculum for excellence: the challenges of assessment and potential of multi-touch technology', *Education* 42(5), pp.475-487
- Milam, D. P. (2008). 'Public library strategies for building stronger economies and communities'. *National Civic Review*, 97, pp.11-16.
- Miller, J. (2011). 'Customizing curriculum with digital resources', *The Science Teacher*, 78 (7), pp.46-50.
- Miller, L.K. (2014) 'Celtic literature and mythology reference sources: a general review', *Reference Reviews*, 28 (4), pp. 2-5.
- Montiel-Overall, P. (2010) 'Further understanding of collaboration: A case study of how it works with teachers and librarians', *School Librarians Worldwide*, 16 (2), pp.31-54
- Museums Association (2017) *Museums Change Lives*, London: Museums Association [pdf] Available at: < <https://www.museumsassociation.org/download?id=1218885>> Accessed: 15/05/2019
- National Library of Scotland (2004) *Breaking through the walls: The strategy of the National Library of Scotland*. Edinburgh: NLS [pdf] Available at: < <https://www.nls.uk/media/22415/strategy2004.pdf>> (accessed: 15/07/2019)
- National Library of Scotland (2008) *Expanding our horizons: National Library of Scotland Strategy 2008-2011*. Edinburgh: NLS [pdf] Available at: < <https://www.nls.uk/media/22392/2008-strategy.pdf>> (Accessed: 25/06/2019)

- National Library of Scotland (2011) *Connecting Knowledge: NLS Strategy 2011-2014*. Edinburgh: NLS [pdf] Available at: <https://www.nls.uk/media/896838/2011-2014-strategy.pdf> (accessed: 15/06/2019)
- National Library of Scotland (2015) *National Library of Scotland 2015-2020 Strategic Plan*. Edinburgh: NLS. [pdf] Available at: < <https://www.nls.uk/about-us/corporate-documents/strategy-2015-2020-text?>> (accessed: 01/03/2019)
- National Library of Scotland (2018) *National Library of Scotland 2018-2018 Library Plan*, Edinburgh: NLS [pdf] Available at: < <https://www.nls.uk/media/1621170/2018-2019-library-plan.pdf>> Accessed: 01/08/2019
- Payne, A, (2019). 'Collecting Matters: Archives Inspire Creativity', *ARC Magazine*, March 2019, p.10.
- Peattie, E. (2015). 'Welcome to the Archives and Learning for Education Section issue', *ARC Magazine*, August 2015, p.9.
- Qu, S. Q, & Dumay, J. (2011) 'The qualitative research interview', *Qualitative Research in Accounting and Management*, 8(3), pp.238-264.
- Rabionet, S.E. (2011) 'How I Learned to Design and Conduct Semi-Structured Interviews: An Ongoing and Continuous Journey'. *Qualitative Report*, 16 (2), pp.563-566.
- Rayward, W. B. (1998) 'Electronic information and the functional integration of libraries, museums, and archives', in Higgs, E. (eds) *History and Electronic Artefacts*. Oxford: Clarendon Press, pp 207-226
- Rolloff, E. K (2013) 'We're Engaged! A community-university library collaboration', *Metropolitan Universities*, 24 (3), pp.20-35
- Ross, R. (2011) 'Learning Zone marks a new chapter for National Library', *The Times Educational Supplement Scotland*, no. 2239, pp. 24.
- Saracevic, T. (2000) 'Digital library evaluation: Toward an evolution of concepts'. *Library Trends*, 49 (2), pp. 350-369.
- Saumure, K. & Shiri, A. (2006) 'Integrating digital libraries and virtual learning environments'. *Library Review*, 55 (8), pp. 474-488.

Scottish Executive (2004) A Curriculum for Excellence: The curriculum review group. Edinburgh: Scottish Executive. [pdf] Available at: <http://www.gov.scot/Publications/2004/11/20178/45863> (accessed: 10/06/2019)

Scottish Government (2008) Curriculum for Excellence: Building the Curriculum 3. Edinburgh: Scottish Government [pdf] Available at: < <https://education.gov.scot/Documents/btc3.pdf>> (accessed: 10/06/2019)

Scottish Government (2015) Literature Review on the impact of digital technology on learning and teaching. [pdf] Available at: < <https://www.gov.scot/publications/literature-review-impact-digital-technology-learning-teaching/pages/4/>> (accessed: 20/06/2019)

Scottish Government (2016a) Enhancing Learning and Teaching Through The Use of Digital Technology. Edinburgh: Scottish Government. [pdf] Available at: < <https://www.gov.scot/publications/enhancing-learning-teaching-through-use-digital-technology/>> (accessed: 04/07/2019)

Scottish Government (2016b) Empowering Teachers, Parents and Communities to Achieve: Excellence and Equity in Education, Edinburgh: Scottish Government. [pdf] Available at: < <https://www.gov.scot/publications/empowering-teachers-parents-communities-achieve-excellence-equity-education-governance-review/>> (accessed: 04/06/2019)

Scottish Government (2017) 2017 National Improvement Framework and Improvement Plan for Scottish Education: achieving excellence and equity. Edinburgh: Scottish Government. Available at: <https://www.gov.scot/publications/2017-national-improvement-framework-improvement-plan/> (accessed: 07/06/2019)

Scottish Library and Information Council (2015) Ambition and Opportunity: A Strategy for Public Libraries in Scotland 2015-2020 [pdf] Available at: <<https://scottishlibraries.org/media/1133/ambition-opportunity-scotlands-national-public-library-strategy.pdf>> (Accessed: 05/04/2019)

Scottish Library and Information Council (2018) Vibrant Libraries, Thriving Schools [pdf] Available at: < <https://scottishlibraries.org/media/2108/vibrant-libraries-thriving-schools.pdf>> (accessed: 10/07/2019)

Scottish National Party (2011) Re-Elect: A Scottish Government Working For Scotland, Edinburgh: Scottish National Party, [pdf] Available at: < <https://electionleaflets.org/leaflets/6280/>> (accessed: 15/06/2019)

Scottish National Party (2017) Stronger For Scotland, Edinburgh: Scottish National Party. [pdf] Available at: < <https://www.snp.org/stronger-for-scotland-towards-a-decade-of-delivery/>> (Accessed: 15/06/2019)

Scottish Qualifications Authority (2017) National 5 History: Course Specification. [pdf] Available at: https://www.sqa.org.uk/files_ccc/HistoryCourseSpecN5.pdf (accessed: 06/08/2019)

Score, S. (2017) 'Social Constructivism in Online Learning: Andragogical Influence and the Effectual Educator', *E-mentor*, 3 (70), pp.4-9

Stevens, A. (2016) 'Functions, tasks and roles of national libraries in the 21st century'. *Alexandria*, 26 (2), pp.145-198)

Tanackoviæ, S.F. & Badurina, B. (2008) 'Collaboration as a wave of future: exploring experiences from Croatian archives'. *Library Hi Tech*, 26 (4) ,pp.557-574.

Trist, E. (1977) 'Collaboration in Work Settings: A personal perspective', *Journal of Applied Behavioural Science*, 13 (3), pp.268-278.

Trist, E. (1983) 'Referent Organizations and the Development of Inter-Organizational Domains', *Human Relations*, 36 (3), pp.269-284

Vincenza-Daurio, P. (2010) A library and its community: Exploring perceptions of collaboration, MA thesis, Portland State University.

Vitiello, G. (2001) 'National Libraries: The Concept and the Practice, 1700–2000', *Alexandria*, 13 (3), pp. 139–151

Webb, N.L. & Doll, C.A. (1999) 'Contributions of library power to collaborations between librarians and teachers.' *School Libraries Worldwide*, 5 (2), pp. 29-44.

Williams, D. & Coles, L (2007) 'Evidence-based practice in teaching: an information perspective', *Journal of Documentation*, 63 (6), pp.912-835

Wilson, L.A. (2000) 'The Lone Ranger is dead: success today demands collaboration', *College & Research Libraries News*, 61 (8), pp.1-4.

- Wilson, R. (2002). Research notes: transcribing interviews is no easy task--it takes time, staff and money. (perspectives). *Nursing Standard*, 17(5), 24. Available at: <<https://link.gale.com/apps/doc/A94199243/AONE?u=ustrath&sid=AONE&xid=644c8bc9>> (Accessed: 09/07/2019)
- Wolfswinkel, J.F., Furtmueller, E. & Wilderom, C.P.M (2013) 'Using Grounded Theory as a method for rigorously reviewing literature', *European Journal of Information Systems*, 22, pp.45-55.
- Wood, D.J., & Gray, B. (1991) 'Toward a Comprehensive Theory of Collaboration'. *Journal of Applied Behavioural Science*, 27(2), pp.139-162.
- Yarrow, A, Clubb, B & Draper, J.L. (2008) 'Public Libraries, Archives, and Museums: trends in collaboration and cooperation, *IFLA Professional Reports*, 108.
- Zorich, D.M., Waibel, G., & Erway, R. (2008) *Beyond the Silos of the LAMs: Collaboration Among Libraries, Archives and Museums*, Ohio: OCLC Research.

Appendix A: Participant Information Sheet for National Library of Scotland staff

[FOR USE WITH STANDARD PRIVACY NOTICE FOR RESEARCH PARTICIPANTS]

Name of department: Computer and Information Science

Title of the study: Digital Collaboration: NLS and education sector case study

Introduction

You are being invited to participate in my MSc dissertation research on digital collaboration between the National Library of Scotland and the primary and secondary education sector. This research is being conducted by Amanda Bowie, a current MSc Information and Library Studies postgraduate student at the University of Strathclyde. This research is being conducted as part of a postgraduate degree and is not affiliated with the National Library of Scotland. Contact information for the researcher are included at the end of this document.

What is the purpose of this research?

The purpose of this research is to understand the value of the collaboration between national libraries and the education sector, specifically evaluating the National Library of Scotland's digital learning resource the 'Learning Zone' as a case study. National libraries around the world are becoming increasingly involved in education and developing educational resources aimed at teachers, however there is a lack of research into the value and impact of this collaboration. How teachers view these educational resources and the value of collaborating with national libraries is particularly under researched. This research intends to somewhat fill this gap by researching how Scottish teachers and NLS staff view the National Library of Scotland's Learning Zone, and to gain a better understanding of how national libraries can help facilitate education through collaborative projects.

Do you have to take part?

Participation in this research is entirely voluntary and you have the right to withdraw at any time before the 5th of August 2019. Participants can withdraw without any repercussion and do not have to provide reasons for withdrawal. Should participants decide to withdraw, data collected from their interview will be destroyed.

What will you do in the project?

You will be asked to take part in an interview lasting approximately one hour that will explore your perceptions of digital collaboration between the national library and primary and secondary education, and how the Learning Zone is designed, evaluated and maintained. Participation is entirely voluntary. You do not have to answer all questions should you not wish to, and you have the right to withdraw at any time before the 5th of August 2019, which is two weeks prior to the submission date. Participants can withdraw without any repercussion and do not have to provide reasons for withdrawal. Should participants decide to withdraw, data collected from their interview will be destroyed. Interview questions can be skipped by participants should they not want to answer them.

Why have you been invited to take part?

This dissertation requires interviews with both NLS staff and Scottish teachers. The only criteria for NLS staff to participate is they must have some role which involves the Learning Zone. There are no further criteria for participating.

What are the potential risks to you in taking part?

There are no potential risks to participating in this research.

What information is being collected in the project?

Information on perceptions of digital resources and collaboration will be collected from all participants via interviews. Additionally, information on attitudes towards collaborating with the primary and secondary education sector will be collected. No personal data will be collected since it is not required by the research, and in line with GDPR and data protection legislation only necessary data will be collected. Participants data will be anonymised, with each participant being described by an anonymous identifier.

Who will have access to the information?

Information provided by participants will only be accessed by the researcher. Interview responses will be used in the final submitted dissertation and each participant will only be identified via their anonymous identifier. No other identifiable or personal information will be included in the final dissertation.

Where will the information be stored and how long will it be kept for?

Information collected from these interviews will be stored on a password protected computer, and a backup on the student's University H Drive, both of which are only accessible by the researcher and secure. This insures that no data is lost or insecure and is stored safely in line with data protection. Data will not be retained longer than necessary, and after the final grade for this project has been received in November 2019, all data will be destroyed.

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

Please also read our [Privacy Notice for Research Participants](#)

What happens next?

If you would like to participate in this research or have any enquiries about it, the contact information is supplied below. Prior to participating in this research, you are asked to sign a consent form to confirm that you are happy to be interviewed as part of this research and understand what is expected of you and your right to withdraw. If you have decided you do not wish to take part, thank you for your attention. The results of this research are not expected to be published however the National Library of Scotland may be interested in reading the final report.

Researcher contact details:

If you wish to contact me, my University of Strathclyde student email is:
amanda.bowie.2018@uni.strath.ac.uk.

Chief Investigator details:

The supervisor for this project is Prof. Steven Buchanan, and you can contact him at:
s.j.buchanan@stir.ac.uk

This research was granted ethical approval by the University of Strathclyde Department of Computer and Information Sciences Ethics Committee.

If you have any questions/concerns, during or after the research, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Secretary to the Departmental Ethics Committee
Department of Computer and Information Sciences,
Livingstone Tower
Richmond Street
Glasgow
G1 1XH
email: ethics@cis.strath.ac.uk

Consent Form for NLS staff

Name of department: Computer and Information Science

Title of the study: Digital collaboration: NLS and education case study

- I confirm that I have read and understood the Participant Information Sheet for the above project and the researcher has answered any queries to my satisfaction.
- I confirm that I have read and understood the Privacy Notice for Participants in Research Projects and understand how my personal information will be used and what will happen to it (i.e. how it will be stored and for how long).
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, up to the point of completion, without having to give a reason and without any consequences.
- I understand that I can request the withdrawal from the study of some personal information and that whenever possible researchers will comply with my request. This includes the following personal data:
 - Interview transcripts of your answers to questions
- I understand that anonymised data (i.e. data that do not identify me personally) cannot be withdrawn once they have been included in the study.
- I understand that any information recorded in the research will remain confidential and no information that identifies me will be made publicly available.
- I consent to being a participant in the project.
- I consent to being audio and/or video recorded as part of the project

(PRINT NAME)	
Signature of Participant:	Date:

Appendix B: Participant Information Sheet for Scottish teachers

[FOR USE WITH STANDARD PRIVACY NOTICE FOR RESEARCH PARTICIPANTS]

Name of department: Computer and Information Science

Title of the study: Digital Collaboration: NLS and education sector case study

Introduction

You are being invited to participate in my MSc dissertation research on digital collaboration between the National Library of Scotland and the education sector. This research is being conducted by Amanda Bowie, a current MSc Information and Library Studies postgraduate student at the University of Strathclyde. This research is being conducted as part of a postgraduate degree and is not affiliated with the National Library of Scotland. Contact information for the researcher are included at the end of this document.

What is the purpose of this research?

The purpose of this research is to understand the value of the collaboration between national libraries and the education sector, specifically evaluating the National Library of Scotland's digital learning resource the 'Learning Zone' as a case study. National libraries around the world are becoming increasingly involved in education and developing educational resources aimed at teachers, however there is a lack of research into the value and impact of this collaboration. How teachers view these educational resources and the value of collaborating with national libraries is particularly under researched. This research intends to somewhat fill this gap by researching how Scottish teachers and NLS staff view the National Library of Scotland's Learning Zone, and to gain a better understanding of how national libraries can help facilitate education through collaborative projects.

Do you have to take part?

Participation in this research is entirely voluntary and you have the right to withdraw at any time before the 5th of August 2019. Participants can withdraw without any repercussion and do not have to provide reasons for withdrawal. Should participants decide to withdraw, data collected from their interview will be destroyed. Interview questions can be skipped by participants should they not want to answer them.

What will you do in the project?

You will be asked to take part in an interview lasting approximately one hour that will explore your perceptions of digital collaboration between the national library and primary and secondary education, and the value of digital educational resources in supporting teaching. Participation is entirely voluntary. You do not have to answer all questions should you not wish to, and you have the right to withdraw at any time before the 5th of August 2019, which is two weeks prior to the submission date. Participants can withdraw without any repercussion and do not have to provide reasons for withdrawal. Should participants decide to withdraw, data collected from their interview will be destroyed. Interview questions can be skipped by participants should they not want to answer them.

Why have you been invited to take part?

The criteria for participation in this research are any teacher in Scottish school (both primary and secondary) who teach on any of the following subjects: information literacy, Scots language, history, geography, English, or social studies who the NLS Learning Zone is designed for. Additionally, any individual from Education Scotland, the General Teaching Council of Scotland, and the Scottish Association of Teachers of History with knowledge in these subject areas are invited to participate. These criteria were derived from the targeted demographic of the NLS Learning Zone.

What are the potential risks to you in taking part?

There are no potential risks to participating in this research.

What information is being collected in the project?

Information on perceptions of digital resources and collaboration will be collected from all participants via interviews. No personal data will be collected since it is not required by the research, and in line with GDPR and data protection legislation only necessary data will be collected. Participants data will be anonymised, with each participant being described by an anonymous identifier.

Who will have access to the information?

Information provided by participants will only be accessed by the researcher. Transcripts of interview responses will be used in the final submitted dissertation and each participant will only be identified via their anonymous identifier. No identifiable or personal information will be included in the final dissertation.

Where will the information be stored and how long will it be kept for?

Information collected from these interviews will be stored on a password protected computer, and a backup on the student's University H Drive, both of which are only accessible by the researcher and secure. This insures that no data is lost or insecure and is stored safely in line with data protection. Data will not be retained longer than necessary, and after the final grade for this project has been received in November, all data will be destroyed.

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

Please also read our [Privacy Notice for Research Participants](#)

What happens next?

If you would like to participate in this research or have any enquiries about it, the contact information is supplied below. Prior to participating in this research, you are asked to sign a consent form to confirm that you are happy to be interviewed as part of this research and understand what is expected of you and your right to withdraw. If you have decided you do not wish to take part, thank you for your attention. The results of this research are not expected to be published however the National Library of Scotland may be interested in reading the final report.

Researcher contact details:

If you wish to contact me, my University of Strathclyde student email is:
amanda.bowie.2018@uni.strath.ac.uk.

Chief Investigator details:

The supervisor for this project is Prof. Steven Buchanan, and you can contact him at:
s.j.buchanan@stir.ac.uk

This research was granted ethical approval by the University of Strathclyde Department of Computer and Information Sciences Ethics Committee.

If you have any questions/concerns, during or after the research, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

Secretary to the Departmental Ethics Committee
Department of Computer and Information Sciences,
Livingstone Tower
Richmond Street
Glasgow
G1 1XH
email: ethics@cis.strath.ac.uk

Consent Form for Scottish teachers

Name of department: Computer and Information Science

Title of the study: Digital collaboration: NLS and education case study

- I confirm that I have read and understood the Participant Information Sheet for the above project and the researcher has answered any queries to my satisfaction.
- I confirm that I have read and understood the Privacy Notice for Participants in Research Projects and understand how my personal information will be used and what will happen to it (i.e. how it will be stored and for how long).
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time, up to the point of completion, without having to give a reason and without any consequences.
- I understand that I can request the withdrawal from the study of some personal information and that whenever possible researchers will comply with my request. This includes the following personal data:
 - Interview transcripts of your answers to questions
- I understand that anonymised data (i.e. data that do not identify me personally) cannot be withdrawn once they have been included in the study.
- I understand that any information recorded in the research will remain confidential and no information that identifies me will be made publicly available.
- I consent to being a participant in the project.
- I consent to being audio and/or video recorded as part of the project

(PRINT NAME)	
Signature of Participant:	Date:

Appendix C: Interview Script

NLS Questions

Demographics

1. Can you tell me about your job role in the National Library of Scotland?
2. How long have you worked in the NLS?
3. Have you worked on other collaborative projects before?

Interview Questions

4. What terms do you use to describe the work you are doing with education, and what does it mean to you?
5. How do you think collaboration is viewed by the NLS as an organisation?
6. Can you tell me about the Learning Zone site and a little background on how it was created and how it is maintained?
7. Do you work directly with teachers in making the Learning Zone resource?
 - a. If yes, can you tell me about your experience working with teachers and what kind of relationship you have?
 - b. If no, do you work directly with any educational bodies in developing the Learning Zone?
8. Do you do any promotional or outreach work to promote the Learning Zone resource and how it can benefit teachers? If yes, can you describe it?
9. Are there any evaluative measures in place to evaluate the awareness of the resource and how it is used by teachers?
10. Do you think the Learning Zone is an effective resource for supporting education? Why?
11. What do you think the NLS could do to further increase collaboration with school education in Scotland?

Appendix D: Interview Script

Educator Questions

Demographics

6. Can you tell me a little about your career and how long you have been a teacher?

Interview Questions

7. What are your views on using digital resources in education?
8. Can you tell me how you incorporate digital resources into your teaching?
 - a. If you do not use digital resources, is there a reason why you choose
9. Are you aware of the NLS Learning Zone?
 - a. If yes, have you ever incorporated it into your teaching?
10. The Learning Zone is the result of digital collaboration between the NLS and the education sector.
What role do you think the NLS could play in education?
11. Do you think there are any benefits of the NLS collaborating with the education sector to create educational tools like the Learning Zone?
12. In what ways do you think that schools and the NLS might collaborate further to support education?