

A
COMPARATIVE STUDY
OF CHILDREN'S ARCHAEOLOGY PROGRAMS
IN CANADA, THE UNITED KINGDOM
AND THE UNITED STATES OF AMERICA

by

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I. Abstract

In the past few decades, there has been a shift in the archaeological mind-set about the importance of involving the public in order to preserve the past for the future. Archaeologists have repeatedly called for more public programming and the archaeological and museum community have responded. However, few publications review or compare these programs either within or between countries. This thesis presents the results from a pilot survey, sent to over 1,000 museums in Canada, the United Kingdom and the United States as well as the results of a more in-depth survey of 11 programs in these countries to determine program trends and patterns. Issues of indigenous awareness and involvement, local community involvement and program success in relation to goals are also examined.

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CHAPTER I. *Introduction*

For many years archaeologists have recognised the need for public involvement in and support of archaeology. However, in the last 30 years, beginning with McGimsey (1972), archaeologists have increasingly called for involvement of the public through structured programs. While articles and books discuss this need (see Knudson 1991, Lipe 1974, McGimsey and Davis 2000, McManamon 1991), only a few actually describe ways to do it (Fagan 1984, Lipe 2002, Smardz 1991, Smardz and Smith 2000) and generally only on a case study basis (Hoffman, 1991, Heath 1997, Anderson Comer 2000). The need for public programs is now established and their number is growing (Smardz and Smith 2000:17-18, Thomas 2005), yet there are very few comprehensive reviews of programs (Smardz Frost (2004) is a notable exception) nor are there broad scale comparisons within or between countries (see Thomas 2005) available to assist in creating new programs and improving current ones.

The creation of archaeology programs for the public is critical for the preservation of archaeological resources, as public programming encourages understanding of the heritage value of the record (Smardz Frost 2004:60-1). If we expect to have any of the record left for future generations, it is important to teach the public about the finiteness of the archaeological record. Through education we can potentially lessen the activities of treasure hunters, pothunters and those who partake in the illegal antiquities market. Johnson (2000:78) argues "part of the objective of archaeology education is to instil in school children an ethic of stewardship toward the archaeological record and an appreciation for the many other cultures that have come before us."

Smardz (1991), and Smardz and Smith (2000) have been major advocates of public programming in general but also specifically for programs aimed toward children. Smardz and Smith (2000) provide two reasons for targeting children. First, children are learning how to think, solve problems, understand their world and develop their lifelong character. Second, children can influence the attitudes of adults in their lives. Thus, Smardz and Smith (2000:28) argue that "[a] concerted effort to assure that youths learn essential points about archaeology is perhaps our greatest

opportunity for conserving the archaeological record and for having a future adult generation that understands and values the discipline.”

In response to Smardz and Smith and other calls in the literature, in the summer of 2004 a group of University of British Columbia (UBC) anthropology and archaeology graduate students, under the guidance of Dr. Susan Rowley, developed and implemented a series of week long archaeology summer camps at the UBC Museum of Anthropology. Three sessions were offered. The first two camps were open to anyone aged 10-14, and the third was reserved for First Nations children, especially Musqueam children as the Museum is situated on traditional Musqueam territory (Thomas and Fortney 2005). The logistical obstacles and successes we encountered led us to question what other programs were doing, how they addressed looting issues, what were their most successful activities, what would they recommend not using, etc.? Had this information been available in the literature, perhaps some of the problems we faced could have been avoided. The experience led to an increased interest in current voluntary children's programs and a desire to create a resource for programmers that was not available during our program development.

In a previous survey (Thomas 2005), I examined general trends in and the range of public archaeology children's programming in five Canadian institutions. Given a distinct difference between the nature of the programming (school groups vs. voluntary camp-type programs) some comparisons were difficult. Nevertheless, several patterns emerged from the analysis. The first was a shift in the availability of and resources dedicated to children's programming. Over the past 30 years, permanent staff have been hired to develop and run education programs at museums, including archaeology programs. Types and themes of programs have also increased, providing greater access for local children. Archaeology has been added to educational curricula, and programs have been created to correspond with local school curricula. However, involvement of First Nations in the programs surveyed has been lacking, despite repeated calls for collaboration not only in archaeological research but also in educational program development and delivery (Hill and Nicks 1992, Nicholson, et al. 1996, Holm and Pokotylo 1997, McGhee 1997). First Nations history as a

learning objective has also declined in the last 10 years in the programs surveyed (Thomas 2005).

This thesis builds upon this previous work by looking at similar issues in an international context.

Thus, this thesis provides specific information about programs in three countries that teach children about the discipline of archaeology and the archaeological record.

CHAPTER II. *Objectives, Scope, and Methodology*

The purpose of this thesis is to provide a synthesis of data relating to current efforts in Canada, the United Kingdom (UK) and the United States (US) to teach archaeology to children and to understand how programming can be improved, based on the experiences of the program coordinators. This thesis compares voluntary children's archaeology programs within and between the three countries in order to identify trends and patterns within programs, especially in relation to how each institution teaches archaeology as a discipline and how the archaeological record is used as a resource for education.

This thesis also describes the main components of children's archaeology programming and thus provides a resource for institutions wishing to create or further develop their own programs. These components include funding methods, staffing options, learning objectives, consistently successful activities and activities to avoid, and community and indigenous involvement.

Select institutions in Canada, the UK and the US offering voluntary programs for children with a focus on teaching archaeology as a discipline were surveyed. Voluntary programs were chosen because children attending these programs do so of their own (or their parents') desire, not as part of a classroom field trip. In other words, the children and/or parents have some level of interest in archaeology and are not enrolling simply because of school requirements. Programs that last one day or longer were chosen because there is more time, effort and resources involved in the development of longer programs; and therefore, the results from this survey would be most beneficial to those creating these programs.

This thesis addresses the following objectives:

1. What is the nature and scope of these programs? What are the general trends in programming across the three countries?
2. What are the similarities and differences in programs?
3. How successful are the current programs?

It is difficult to determine success from an outside perspective and even more difficult to gauge long-term success (e.g., how these types of programs impact children later in life). In this thesis, success is based on responses of the institutions to questions such as benefits of such a program versus perceived negative consequences, such as increased pothunting. Success is also measured by two criteria:

- 1) institutions are meeting their learning objectives;
- 2) institutions are able to maintain staff and monetary resources to continue and/or expand the program.

The survey was conducted in two steps: 1) a large pilot survey to ascertain which institutions provide a voluntary children's archaeology program of one day or longer, followed by 2) an in-depth survey. Many of the answers to questions asked in both the pilot survey and the in-depth survey are currently unavailable in a publicly accessible format. Thomas (2005) found that responses to direct questions from those who know the most about the programs (usually the program coordinator) provided the most informative responses. A behind-the-scenes look at program development and internal reviews is crucial to understanding how these programs began and how they are currently run.

Criteria for institution selection required that: a) the institution have a physical location and/or b) include at least one of the following words in the institution name: children, history, culture, archaeology, anthropology. This excluded virtual museums, art galleries and speciality museums (such as the National Fly-fishing Museum). The pilot survey systematically sampled 20% of the accredited institutions listed in the Canadian Museum Association Directory (Canadian Museums Association 2006), the USA Museums Database (USA Museums 2006) and the 24 Hour Museum Index in the UK (24 Hour Museum 2006). Based on an alphabetical list, every fifth museum that met the filter criteria was selected. Institutions were first asked if they run a voluntary children's archaeology program. If the response was yes, they were invited to participate in the in-depth survey.

If the response was no, they were asked why not. These institutions were also asked if they had run this type of program in the past, and if so, why it had been cancelled.

The data analysis chapter of this thesis is divided into two sub-sections: 1) results from the pilot survey, and 2) results of the in-depth survey. One question from the survey — dealing with advertisement of the programs (Question #12, see Appendix I) — is not discussed in here due to time and space limitations. All other questions from the in-depth survey are addressed and divided into eight sub-sections: 1) program descriptions, 2) reasons for creation, past and present funding issues and program costs, 3) initial and current staff and participants, 4) learning objectives including rankings of several teaching objectives and involvement of indigenous peoples on a Likert scale, 5) actual activities delivered and their relative success, 6) involvement of local communities including benefits and negative consequences perceived in the community as a result of the program, 7) involvement of local indigenous people and in what way and 8) general advice from program coordinators. The discussion chapter of this thesis synthesizes the survey results as they relate to several key issues.

CHAPTER III. Data Analysis

A. Pilot Survey Data

The pilot survey was sent to 1,119 institutions: 331 in Canada, 650 in the UK and 138 in the US. Of these, 111 were undeliverable, 102 institutions replied they did not run the program and seven ran the program at one time but no longer do so (see Table 1). The average response rate for the survey was 13% (129 institutions) constituting an effective sample size for study.

Table 1: Pilot Survey e-mails divided by response type.

	Initial E-mails Sent	Un-deliverable	RESPONSES			TOTAL Number of Responses	Response Rate
			Do Not Run Program	No Longer Run Program	Run Program		
Canada	331	71	41	1	5	47	18%
UK	650	29	40	4	8	52	8%
US	138	11	21	2	7	30	24%
TOTAL	1119	111	102	7	20	129	avg. 13%

Museums that indicated they do not run this type of program because it was not part of the institution's objectives (14 from Canada, 12 from the UK and eight from the US) in addition to those that did not provide a reason (four from Canada, one from the UK and one from the US) were removed from analysis. The remaining institutions cited two main reasons: 1) a lack of resources in the form of either staff or funding or both, 2) a decision to offer programs in other areas (see Table 2). One UK institution was new and did not have any programs running yet, but had plans to implement the program described in the pilot survey (indicated by "Other"). Of note, one institution in Canada stated that while lack of resources was the predominant reason, they "do not encourage using sites for training." In Canada, the most common reason for not offering this program was a focus on other programs. In the UK, the most prevalent reason was lack of resources. In the US, these two reasons were split equally.

Table 2: Reasons why institution does not run a voluntary children's archaeology program.

	Canada		UK		US		TOTAL	
	n	%	n	%	n	%	n	%
Lack of Resources	9	39%	18	67%	6	50%	33	53%
Other Programs	14	61%	8	30%	6	50%	28	45%
Other	0	0%	1	3%	0	0%	1	2%
Total	23	100%	27	100%	12	100%	62	100%

The seven institutions that formerly ran this type of program cancelled it for several reasons. The UK institutions cancelled the programs because the main staff member left and had not been replaced (n=3) or the archaeology unit was closed (n=1). The two US institutions indicated a lack of trained staff and resources. The one Canadian museum cancelled its program due to lack of resources.

After the results from the pilot survey were compiled, all institutions that ran the specific program were sent the in-depth survey by e-mail. Respondents had the option of completing the survey and returning it by e-mail, or opting for a phone interview. Five institutions in Canada, eight in the UK and seven in the US were invited to complete the in-depth survey. Three from each country completed the survey for a response rate of 45%. Results from Thomas (2005) for one institution were also included. For this thesis, respondents are identified by institution (and in the case of London Museum of Archaeology, by program).

The eleven programs are:

Canada:

- London Museum of Archaeology (London Day) – *Day Camp* – London, Ontario
- London Museum of Archaeology (London Weekend) – *Weekend Expedition Program* – London, Ontario
- London Regional Children's Museum (London Children's) – *CoolQuest Day Camp* – London, Ontario
- St. Catharines Museum (St. Catharines) – *Digging up the Past* – St. Catharines, Ontario
- Yukon Beringia Interpretive Centre (Yukon) – *Camp Beringia* – Whitehorse, Yukon Territory.

United Kingdom:

- Durham County Council, Archaeology Section (Durham) – *Time Detectives* – Durham County
- Coventry Arts and Heritage, Lunt Roman Fort (Coventry) – *National Archaeology Week* – Badington, Coventry
- Royal Cornwall Museum (Cornwall) – *National Archaeology Day* – Truro, Cornwall

United States:

- El Paso Museum of Archaeology (El Paso) – *Archaeology Day Camp* – El Paso, Texas
- Kansas State Historical Society (Kansas) – *Archeology Training Program* – Topeka, Kansas
- North Carolina Maritime Museum (North Carolina) – *Summer Science School – Maritime Archaeology* – Beaufort, North Carolina

For the remainder of the thesis, the programs will be referred to by the names in parentheses as listed above.

B. In-Depth Survey

i. Program Descriptions

London's *Day Camp* is divided into two sections: one for children ages 6-10, called *Adventures in Archaeology*, established in 1997, and the other for children ages 11-14 called *Dig It*, created in 2003. *Adventures in Archaeology* is a week-long camp offered throughout the summer and the March break. *Dig It* also runs for one week but is only available for three weeks during the summer. Although offered at two distinct levels, the programs are similar and will be treated as one, identified as *Day Camp* in this thesis. London's *Weekend Program* was created in 1999. The program is designed for students 15 years and older, including adults. It is run one weekend per month in July, August and October. London Children's began their day camp program in 1979. It is one week long and offered throughout the summer months. Each week has a different theme, only one of which is Archaeology. The others are Palaeontology and Around the World (with a cultural focus). The targeted age group is 4-12. St. Catharines created their *Digging up the Past* program in 2003. Camps for children ages 6-11 run for one week during the summer. Yukon has run *Camp Beringia* for one day each week in July and August since 2000. It is open to children ages 7-12. Each week offers a different theme such as Predator/Prey, Hunter-Gatherer, Reconstructing the Beringia Environment, Big Fish Stories, and Raven about Beringia.

In the UK, Durham began their *Time Detectives* program in 1999. The program runs for two weeks every summer, but participants can sign up for one week at a time. Coventry created their program in July 2005 as part of National Archaeology Week – a nation-wide promotion of archaeology and heritage. It is open mainly to children ages 5-12 but is also available to families.

Cornwall offers a program associated with National Archaeology Day (which has since become National Archaeology Week). It is designed for families with children under the age of 15. The *National Archaeology Day Program* has run every July since the early 1990s.

In the US, El Paso offers an *Archaeology Day Camp* that is held every morning for one week every summer. The program was created in 2005 and is geared towards children ages 10 and up. Kansas has offered an *Archeology Training Program* every June since 1975 for anyone age 10 and over. The program runs for 16 days, but each participant can choose how many days he/she wants to participate. The program is run in partnership with the Kansas Anthropological Association and is mainly designed around specific research projects so site location varies with each project. North Carolina began its *Summer Science School – Maritime Archaeology Program* in 1989. It runs for one week every summer and is targeted toward ages 12-16.

ii. Reasons for Program Creation and Funding/Costs

The decision to create a children's archaeology program can be based on many factors. Two major trends emerged in this survey: 1) to promote archaeological heritage and 2) to expand program offerings at institutions (see Table 3). Yukon was the only institution that did not identify the initial reason for creating the program as it occurred prior to the appointment of the present coordinator.

Five of 10 (50%) programs that provided a reason were created to promote archaeological heritage. In the US, the state archaeologist at Kansas realized people can either be pot hunters or can engage in real archaeology. As a result, Kansas partnered with the Kansas Anthropological Association and created a program with three goals: 1) to carry out archaeological research, 2) to direct amateurs in non-destructive work and 3) to have fun.

In the UK, the Cornwall set up its program in partnership with the Young Archaeologist Club, a nation-wide club that promotes archaeology to children. Durham created its program in response to corporate objectives of the County Council: "to ensure that the archaeological heritage of the county is protected, both through the planning system and conservation advice to landowners ...

[and] to reach out to local communities to tell them more about the archaeology and historic environment of their area” (Durham County Council 2005).

Table 3: Reasons for program creation.

Institution	Promote Archaeological Heritage	Expand Programs at Institution	Other
CANADA			
London Day	•	•	Generate Revenue
London Weekend		•	Generate Revenue
London Regional		•	
St. Catharines			Requested by public, teachers, etc.
Yukon			
UNITED KINGDOM			
Durham	•		
Coventry	•		
Cornwall	•		
UNITED STATES			
El Paso		•	
Kansas	•		To carry out archaeology research To have fun
North Carolina			Great subject for a summer program

Almost half of the programs (n=4, 40%) were created to expand program offerings at the institution and to make the institution more accessible. Both programs at London wanted to increase the number of students, offer new programming initiatives, and make the museum more accessible to participants. London Children’s wanted to expand on their already successful dinosaur program and to incorporate mapping, math and science aspects for older children. El Paso stated “... we had wanted to do a program like this for several years, but this was the first year we had enough staff and volunteers to make it work. We have done several one-day events for Girl Scouts and knew from the response that those activities got that we were ready to try a longer program.” (pers. comm., June 15, 2005). North Carolina started its program because they thought archaeology was a great subject to offer in the summer.

Two other reasons were also provided by program coordinators. Both London programs included revenue generation as a primary motivation for program creation. St. Catharines’ program was created upon request from the public and local teachers.

Over half of the institutions (n= 33, 53%) (see Table 2) that gave a reason in the pilot survey stated that they did not run a day-long children's archaeology program due to lack of funding (including lack of funds for staff to run the program). In addition, all institutions that used to run a program had to cancel it due to lack of resources. In order to address this issue, the in-depth survey asked institutions how they initially funded the program and how they maintained it (see Table 4).

Table 4: Initial and current funding options.

Institution	Initial Funding	Current Funding
CANADA		
London Day	Institution budgets Grant	Program fee
London Weekend	Institution budgets	Institution budgets
London Children's	Institution budgets	Institution budgets
St. Catharines	Institution budgets Program fee	Program fee
Yukon	Institution budgets	Institution budgets Territorial government
UNITED KINGDOM		
Durham	Grant	Institution budgets
Coventry	Grant	Grant
Cornwall	Grant	Grant
UNITED STATES		
El Paso	Institution budgets	Institution budgets
Kansas	Institution budgets	Institution budgets Partnerships with private funding sources Government partnerships
North Carolina	Institution budgets Program fee	Institution budgets Program fee

The majority (n=8, 73%) of the programs were created from existing institution budgets. Only three programs (two in Canada, one in the US) identified other funding sources in addition to institution budgets. London Day received support from Young Canada Works, a federal program that provides wages to young Canadians to work in positions related to the social sciences. The *Day Camp* also employed University of Western Ontario work study students. The two remaining programs were supported by the program fee.

All program coordinators in the UK (27% of total programs) stated that grants were the sole funding for the programs. However, none of the coordinators mentioned how many staff hours (and therefore salary from institution budgets) were included in program development and delivery.

Durham obtained grant funding from the New Opportunities Fund, part of the National Lottery Grant Scheme. The Cornwall received a grant from the Council for British Archaeology as well as the British Academy and the relevant national department at the time (currently called the Department of Culture, Media and Sport). Coventry's program was originally funded by a grant through "Renaissance in the Regions" – a national initiative to encourage new audiences and to re-build relationships with the local community and their museums service.

Since sustainability is a key factor in determining program success, it is useful to know how the programs are supported on an on-going basis. Currently, a majority of programs utilize institutional budgets (n=7, 64%) and/or program fees (n=3, 27%) to operate their program. Two programs also receive support through government funding or partnerships. The Yukon receives funding from the territorial government, and Kansas receives support from government partnerships such as the Kansas State Department of Transportation and the Army Corps of Engineers. The remaining programs are currently funded through grants or private partnerships. Cornwall receives a Portable Antiquities Scheme and Heritage Lottery Grant in addition to receiving grant support from "Renaissance in the Regions." Coventry is still supported by "Renaissance in the Regions."

The programs vary in cost, often depending on length of the program (see Table 5). Program fees are stated in Canadian dollars based on the average exchange rate in July 2005 (1 GBP = 2.12 CAD, 1 USD = 1.22 CAD) and rounded to the nearest dollar. The costs range from free to \$201 for a week long program. In several cases, the program cost also depends on the membership status of the individual or level of the program. For example, London Day is \$120 for museum members and \$130 for non-members. The majority (7/11, 64%) of the institutions do not include any mementos. The remaining institutions try to include something for the participant to take home.

UK programs cost the least with only one program charging a fee. Two of the five Canadian programs were created to generate revenue but only one is maintained by the program fee alone. While cost may be a reflection of competing children's programs in the surrounding areas, it is also possible that fees are related to funding sources. The UK programs tend to get most of their support

from government bodies and grants, and this allows them to charge less or even run their programs for free. The only UK program that no longer relies on grant money is also the longest running program of the three, suggesting that the program has become a fixture in the institution. In Canada, most programs were started out of institutional budgets, which may contribute to the need to generate revenue to sustain the program and therefore, charge a fee. Also, expanding institutional offerings is a bigger motivation for programs in Canada than in the other two countries.

Table 5: Length and cost of programs and what the program fee covers.

<i>Institution</i>	<i>Length of Program</i>	<i>Cost per program duration (in CAD)</i>	<i>Items/Activities Included</i>
CANADA			
London Day	1 week	\$120 member \$130 non-member	
London Weekend	1 weekend	\$65 student \$75 adult	
London Children's	1 week	\$128 member \$160 non member	
St. Catharines	1 week	\$95-\$130	Workshops with guest speaker, afternoon snack
Yukon	1 day	\$30	
UNITED KINGDOM			
Durham	1 week	Free	Archaeology manual, t-shirt, hat
Coventry	1 week	\$5 individual \$10 family	
Cornwall	1 day	Free	
UNITED STATES			
El Paso	1 week	\$49	Certificate, t-shirt, tree ring sample
Kansas	2 weeks, 2 days	\$25 flat fee for student member of the Kansas State Historical Society or KAA	
North Carolina	1 week	\$201	Transportation to sites by van and ferry

iii. Staffing and Participants

In the pilot survey, one reason for not running the program was a lack of staff. This section outlines past and current staffing as well as participant numbers (see Table 6) to identify student to staff ratios and changes over time. For London Children's, staff change was indeterminate due to lack of data. Over time, five programs (50%) maintained current staff numbers, and three (30%) increased

their staff and diversified by adding volunteers. Only two programs (20%) decreased their staff.

London Children's program currently has 16 staff members including full time, part time and seasonal staff, but initial staff size was unknown by the program coordinator. Kansas has a staff of 12 archaeologists but the average number working each day during their program is five or six.

Participant numbers are difficult measures of program success. Change over time is indeterminate for four of the programs (36%). For the remaining seven programs, four (57%) maintained their numbers. This, however, may be related more to space limitations than to actual interest. Three programs (43%) increased their numbers. Gauging success based on these numbers is difficult. For example, Durham only requires their participants to sign up for one day out of the week with a maximum of 20 participants per day, so it is unknown how many signed up for the whole week or a few days. Kansas also allows participants to sign up for as many days as they wish. Since participant numbers can vary throughout the program duration, coordinators were asked to supply general staff/participant ratios (see Table 6) (Question #9, see Appendix I).

Table 6: Initial and current program staff and participants, and current staff-to-participant ratio.

Institution	Total Initial Staff	Total Current Staff	Initial Participants	Current Participants	Staff-to-Participant Ratio*
CANADA					
London Day	2 senior 5 work study	1 senior 5 work study	30-90	N/A	1:16
London Weekend	1	1	5	5	1:5
London Children's	N/A	4 full-time 7 part-time 5 seasonal	N/A	34	1:5
St. Catharines	1 staff Volunteers	3 staff Volunteers	5-8	10-35	1:4
Yukon	2	2	10-12	10-12	1:6
UNITED KINGDOM					
Durham	4	3	30	50	1:10
Coventry	5	5	N/A	N/A	N/A
Cornwall	2	6 core 6 Volunteers	N/A	104 adults 77 children	1:16
UNITED STATES					
El Paso	4	4	18	18	1:4
Kansas	3-4	5-6	40-50	130-150	1:10
North Carolina	2	2	5-12	12	1:6

* Ratios provided by program coordinators, these may not reflect calculated values from the table.

There is a range of training and backgrounds of individuals delivering the programs (see Table 7). Almost all of the programs (n=9, 82%) are taught by institution staff members. Four (36%) are delivered by professional archaeologists who are not regular institution staff. One program is taught by university students. Two programs (18%) have the assistance of volunteers — either museum volunteers or parents of participants. One program also brings in university professors and experienced amateurs to assist with teaching.

Program staff members have backgrounds in education, archaeology (including historical and maritime), history, and museum studies/heritage management. Biology and philosophy backgrounds are also present in two programs. All programs are taught by a university graduate. Yukon did not indicate the specific level of the university degree held by staff. The majority of programs (n=9, 90%) that provided a degree level are taught by instructors with at least a Master's degree and three (30%) program teachers have a PhD. None of the programs in Canada have a staff member with a PhD. One program provides an opportunity for university students to gain practical experience in running such programs. The backgrounds of university students include archaeology, history, museum studies, biology, and education.

Table 7: Program instructors and degree level/area of instructors.

Institution	Teachers	Highest Degree	Area of Degree
CANADA			
London Day	<ul style="list-style-type: none"> • Institution staff • University students 	Master's	Archaeology History Education Anthropology Biology
London Weekend	<ul style="list-style-type: none"> • Institution staff 	Master's	Archaeology History Museum studies
London Children's	<ul style="list-style-type: none"> • Institution staff 	Master's	Philosophy Science
St. Catharines	<ul style="list-style-type: none"> • Institution staff • Volunteers 	Honours Bachelor	History Museum studies
Yukon	<ul style="list-style-type: none"> • Institution staff 	University	Science
UNITED KINGDOM			
Durham	<ul style="list-style-type: none"> • Institution staff • Archaeologists 	Master's PhD	Archaeology
Coventry	<ul style="list-style-type: none"> • Institution staff • Archaeologist 	Master's	Archaeology Museum studies
Cornwall	<ul style="list-style-type: none"> • Archaeologists • Volunteers 	Master's	
UNITED STATES			
El Paso	<ul style="list-style-type: none"> • Institution staff 	Master's PhD	Archaeology Museum studies Anthropology
Kansas	<ul style="list-style-type: none"> • Archaeologists • Experienced amateurs • University professors 	Master's PhD	Prehistoric archaeology Historic archaeology
North Carolina	<ul style="list-style-type: none"> • Institution staff 	Master's	Archaeology (underwater) History (maritime)

Most of the programs provide additional training opportunities for their staff (see Table 8). Two of the nine programs that responded to this question do not offer any additional training. The remaining seven programs encourage additional training usually as professional development in the form of presentations/classes or conference attendance (n=5) and/or they require training in program curricula (n=3). All of the programs in the UK encourage professional development while all of the US programs that provide training focus on the local history or program curricula.

Table 8: Additional training provided to instructors.

Institution	Additional Training
CANADA	
London Day	No response
London Weekend	No response
London Children's	Monthly training by staff for staff in fall/winter/spring, outside trainers brought to museum, special guests, workshops, conferences, lectures, university mentorship through our research programme
St. Catharines	Health and Safety, Fire Safety, CPR, Customer Service, Docent Basics, Beyond the Script Tour Development, organized field trips to related sites and guest speakers/workshop presenters
Yukon	None - Guides are encouraged to research and develop programs
UNITED KINGDOM	
Durham	Presentation courses as part of continuing professional development
Coventry	Occasionally sent on courses but mostly we learn through each other, through informal working together and watching others do the job
Cornwall	Mentor training, management courses and diploma courses, encouraged to attend conferences and seminars, etc.
UNITED STATES	
El Paso	We train our volunteers extensively in local archaeology, the prehistory of this region, and how the past relates to modern groups in the area.
Kansas	Everyone takes orientation, principles of archaeology class, formal classes in excavation and survey (these are all part of the program so everyone has to take them).
North Carolina	They are already qualified. We offer logistical support.

iv. Learning objectives

The learning objectives for each program can be divided into four main categories (see Tables 9 and 10): 1) appreciation of the past, 2) teaching archaeology as a discipline, 3) conservation of the archaeological record, and 4) teaching indigenous awareness. Survey question #13 listed the following objectives as examples: conservation, history, archaeology as a discipline, knowledge of the past, indigenous awareness, etc. (see Appendix I). Most coordinators used one or more of these objectives in their answers, but some also added their own objectives. Of note, "indigenous" was not defined in the questionnaire, thereby leaving the term open to the interpretation of the respondent.

"Appreciation of the past" encompasses learning objectives related to history and the past. History is part of the past and knowledge of it is essential for an appreciation for the past; therefore, both objectives have been categorized under one heading. Several institutions listed two or more objectives that have been categorized under "Appreciation of the past."

Table 9: Categories of learning objectives

Group/Category	<i>n</i>	%
I. <i>Appreciation of the past</i>	12	33%
Appreciation of the past	2	17%
Knowledge of the past	4	33%
History	5	42%
Appreciation of the archaeological and historic environment	1	8%
II. <i>Archaeology as a discipline</i>	7	20%
Archaeology as a discipline	6	86%
Knowledge of archaeology	1	14%
III. <i>Conservation of the archaeological record</i>	6	17%
Conservation	4	67%
Stewardship	2	33%
IV. <i>Indigenous Awareness</i>	3	8%
Indigenous Awareness	2	67%
First Nations History	1	33%
V. <i>Other</i>	8	22%
TOTAL	36	100%

The most prevalent objective is an appreciation of the past. It was selected by 10/11 (91%) program coordinators. Teaching archaeology as a discipline was the second most common objective ($n=7$, 64%). Conservation of archaeological material and the record was the third ranked objective with six (55%) programs. Teaching indigenous awareness was the least common objective with only three (36%) programs stating this as a learning objective.

None of the US programs listed teaching indigenous awareness as a learning objective. Canada had the highest proportion with 40% ($n=2$) of programs choosing this objective. In the UK, only one of three programs listed indigenous awareness as a learning objective.

Several institutions provided objectives that were not given as examples. London Day included teaching of cultures from around the world. London Children's has a focus on "the science behind it all." They included the teaching of science, math, geometry, scientific methodology, how to gain knowledge of the past, investigation skills, language and communication skills, history and social science skills, life long learning and self-directed learning. El Paso included "cultural awareness" while Yukon and North Carolina included the objective "to have fun." In particular, North Carolina wanted to offer students a fun learning experience different from their experiences in school. North Carolina's other course objective was to offer a hands-on learning experience in coastal

and underwater archaeology in North Carolina. The experiences included practicing and learning the techniques used in the discovery and documentation of shipwrecks and historic underwater sites.

Students also learned how to snorkel and applied this skill to documenting shipwrecks near shore.

Table 10: Program learning objectives.

Institution	Appreciation of the Past	Archaeology as a Discipline	Conser- vation	Indigenous Awareness	Other
CANADA					
London Day	•	•			Cultures around the world
London Weekend	•	•	•		
London Children's	•				Science, math, geometry, scientific methodology, how to gain knowledge of the past, investigation skills, language and communication skills, history and social science skills, lifelong and self-directed learning
St. Catharines	•		•	•	
Yukon	•	•	•	•	To have fun
UNITED KINGDOM					
Durham	•				
Coventry	•	•			To provide curriculum support materials
Cornwall	•	•	•	•	Create local interest
UNITED STATES					
El Paso	•		•		Cultural awareness
Kansas		•	•		To have fun
North Carolina	•	•			To have a fun experience different from school
TOTAL	10	7	6	3	

Over time, several programs have shifted or altered their learning objectives. The London Children's used to focus their programs around the collections and galleries; now there is more emphasis on curriculum and reaching the widest grade level. They also stress the importance of what is discovered along with the importance of process and documentation. St. Catharines' program coordinator stated that lately there has been greater emphasis on curriculum-based learning objectives. In other words, they aim to make the local history fit into the objectives rather than just teaching history for the sake of teaching it. Kansas' original program objectives were to teach

stewardship and archaeology as a discipline but recently, more emphasis has been placed on conservation/preservation.

Learning objectives are not always met, thus, coordinators were asked what messages or objectives they would like to see emphasized more in their programs (Question #25, see Appendix I) (see Table 11). The most common objective (3/8) that needed more attention was stewardship and caring about archaeology. In addition to this, the scientific side of archaeology was also identified by two program coordinators as a message to promote more.

Table 11: Messages or objectives that coordinators wished to emphasize more.

Institution	Messages or Objectives To Emphasize More
CANADA	
London Day	It's cool to dig
London Weekend	Hands-on learning
London Children's	Self-directed learning, making discoveries using tools of the trade, inspiring learning for all, applying knowledge in math, scientific observation, language, using all faculties to reach conclusions, working with families or in a group to solve the challenges put forth in these programmes
St. Catharines	The science behind archaeology (processes, applications, etc.)
Yukon	No response
UNITED KINGDOM	
Durham	No response
Coventry	For people to care about their site and its archaeology
Cornwall	What archaeologists do
UNITED STATES	
El Paso	Stewardship, conservation
Kansas	Awareness of indigenous perspectives, stewardship always needs emphasizing more
North Carolina	No response

Respondents were asked to rank three teaching objectives and involvement of indigenous communities in program development and delivery in order of importance on a five point Likert scale, where one was least important and five was most important (see Table 12). The three teaching objectives were: 1) teaching conservation of archaeological material and the archaeological record, 2) teaching archaeology as a discipline, and 3) teaching indigenous awareness. For this analysis, the two London programs were combined to prevent a skewed image of the degree of importance in Canada, as both were ranked identically by the same program coordinator.

Table 12: Likert scales of importance of several teaching objectives and involvement of indigenous communities.

Institution	Teaching Conservation of Material and the Record	Teaching Archaeology as a Discipline	Involving Indigenous Communities	Teaching Indigenous Awareness
CANADA				
London	4	5	4	5
London Children's	5	5	2	3
St. Catharines	2	3	5	3
Yukon	4	2	4	5
UNITED KINGDOM				
Durham	5	4	5	5
Coventry	5	5	4	3
Cornwall	4	5	N/A	3
UNITED STATES				
El Paso	5	3	4	5
Kansas	4	5	3	2
North Carolina	5	5	N/A	3

Teaching conservation of the archaeological record/material ranked highest in both the UK and the US with an average of 4.60 for each country (see Table 13). In Canada, conservation ranked lower with an average of 3.75. Teaching archaeology as a discipline was ranked equally important in the UK and in Canada, averaging 4.60 and 3.75 respectively. The US ranked this as important but with an average of 4.30.

Table 13: Country-wide averages of three teaching objectives and involvement of indigenous communities.

Country	Teaching Conservation of Material/ Record	Teaching Archaeology as a Discipline	Involving Indigenous Communities	Teaching Indigenous Awareness
Canada	3.75	3.75	3.75	4.00
UK	4.60	4.60	4.50	3.60
US	4.60	4.30	3.50	3.30

Indigenous issues show the biggest discrepancies between countries (see Table 13). Among institutions that provided a rank, involving indigenous people was ranked the highest in the UK with an average of 4.50 compared to 3.50 and 3.75 for the US and Canada, respectively. Cornwall did not provide a rank value for this question, but the program coordinator stated "The families that came were the local people – I am afraid that we do not have many ethnic minorities down here – but we

have involved them in various exhibitions in the past.” The responses indicate how “indigenous” has many definitions. It is unknown how the other two UK institutions defined indigenous in their rankings; therefore, comparisons between the UK and Canada/US with regard to the nature and role of indigenous peoples are problematic. North Carolina was also excluded from this analysis as the program coordinator stated “... in this course in underwater archaeology, indigenous communities have not been a focus. Local maritime history of European travelers and settlers is the subject of the maritime sites we use in our courses” (pers. comm., June 16, 2005). Involvement of indigenous peoples will be discussed further in Chapter IV.

Teaching indigenous awareness ranked lowest in both the UK (average= 3.60) and the US (average= 3.30) (see Table 13). Kansas, which ranked this at 2, stated that indigenous people have been involved but the program coordinators never targeted them. Canada ranked this the highest with an average of 4.00.

Two program coordinators, one in the UK and one in the US, made comments to the effect that indigenous awareness and involvement should be ranked higher, but in reality it would only rank two or three, sometimes even one. The coordinators wanted the numbers to be higher but also felt the need to portray the situation honestly.

v. Activities

As programs vary greatly in number of staff/participants and location, it is not surprising that the number and type of activities also vary widely. Each institution was asked what activities were offered (Question #16, see Appendix I). They were given the following as examples: “hands-on such as crafts, simulation dig, survey, etc; demonstrations, lectures.” From the responses, three major categories emerge (see Table 14). One of these categories is “excavation,” which is further divided into: simulation and actual. The second category is “other discipline activities,” which includes washing and cataloguing of artifacts, mapping, surveying, and measuring of artifacts and sites. While it can be argued that excavation is a discipline activity, it was prevalent enough to be separated into its own category. The third major category is crafts/games which include activities such as colouring,

drawing, posters, etc. The remaining activities can be divided into four minor categories: 1) experimental activities, which include recreating past actions or objects such as grinding corn, flint knapping, throwing spears and pottery, 2) lectures, 3) museum tours, and 4) field trips, including visits to local sites.

Table 14: Program activities.

Institution	Excavation		Discipline Activities	Crafts/ Games	Experimental Activities	Lectures	Museum Tours	Field Trips
	Simulation	Actual						
CANADA								
London Day	•	•	•	•				
London Weekend		•	•					
London Children's	•		•	•		•		
St. Catharines		•		•			•	
Yukon	•			•	•		•	
UNITED KINGDOM								
Durham		•	•					
Coventry	•		•	•				
Cornwall	•		•		•			
UNITED STATES								
El Paso	•		•	•	•		•	•
Kansas		•	•		•	•		
North Carolina			•			•		•
TOTAL	6	5	9	6	4	3	3	2

London Day consists of a simulation excavation (elementary level) or an actual excavation (high school level), crafts, games, history lesson, plays, field trips, mapping, cleaning, surveying, floatation, analyzing animal bones, processing of simulation crime scenes, and even a lesson in dinosaurs. London Weekend focuses on discipline activities with training sessions, actual excavation, and washing and cataloguing of artifacts. London Children's program consists of a simulation dig, mapping, fossil demonstrations, crafts, special guests (from other museums and professionals), timelines, casting fossils, building models, game play, drama and even dance. Yukon's program includes a tour, film, interactive atlatl activity, games and a simulation archaeological dig depending on age of group and time available.

In the UK, Durham's program encompasses actual excavation and recording techniques, recording of buildings, planning and survey. Coventry's program has lots of hands-on activities such as drawing, recording and careful exploration of objects, as well as a simulation dig. Cornwall has a covered excavation and teaches recording, conservation, and experimental archaeology such as making pottery, stone tools, and food containers.

Similar activities occur in the US programs. El Paso's program includes an in-depth tour of the museum, as well as an illustrated Power Point presentation on the prehistory of the El Paso region and the Southwest up to the present. This is followed by a demonstration of stone tool production, an exercise on what artifacts are, and how archaeologists describe them and interpret their function. It also includes a survey and a simulation excavation of a recreated pueblo site on the museum grounds using the techniques of artifact description previously learned and a demonstration of how atlatls and darts were used. Each camper gets a chance to try themselves ("and some were quite good at it!" (pers. comm., June 16, 2005)). There is also storytelling and a discussion of why artifacts found in the survey and excavation were not collected. An in field analysis is done instead and is discussed along with cultural heritage and stewardship. The program concludes with a visit to Hueco Tanks State Park.

Kansas' program is related to research projects so it includes classes on survey, mapping, excavation and lab work. Throughout the program there are evening lectures, flint knapping demonstrations, and pottery activities. North Carolina includes different activities as its program is focused on underwater archaeology, but there are similarities such as lectures, simulation measuring and on-site surveys. It also includes snorkelling training and documentation exercises to prepare students for underwater on-site surveys.

Almost all of the programs offer some form of excavation. In Canada and the US, simulation versus actual excavation is divided 50/50. There is more focus in the UK on simulation digs. All programs that were only one day long offered simulation excavation. Excavation in general is more popular in Canada and the UK with 100% of programs offering this activity, perhaps because over

half are simulation and therefore there is no risk of damaging sites, especially with younger children. However, London Weekend also stated that the “real” aspect of archaeology was more successful over simulation activities.

Discipline activities are frequent in all countries with over half (3/5) of the programs in Canada, and all of the programs in the UK and in the US including these as part of their programs. Crafts/games (4/5) and museum tours (2/5) are offered more in Canada than in the other two countries, while experimental activities are mostly done in the US (2/3). Over half of the programs that offer crafts/games (5/8), all programs with museum tours, and all but one program with experimental activities also offer simulation excavation.

The survey aimed to find out the degree that these children’s programs correspond with local curricula. Almost half (n=5, 45%) correspond to local curricula and specifically correlate with history, First Nations/indigenous studies and archaeology (see Table 15). London Children’s program is directly linked to the current school curriculum. Cornwall’s program corresponds to literacy, numeracy, technology (manufacturing of tools and vessels) as well as history.

Table 15: Responses to Question 20: *Does your program correspond with your local school curriculum? If so, in what ways?*

Institution	Correspond to Local Curricula	In What Ways
CANADA		
London Day	Not relevant	N/A
London Weekend	Not relevant	N/A
London Children’s	YES	Linked to learning objectives of the school board
St. Catharines	YES	Designed around the current school curriculum.
Yukon	No response	N/A
UNITED KINGDOM		
Durham	YES	History - Romans
Coventry	NO	N/A
Cornwall	YES	Literacy and Numeracy History - The Celts Technology, manufacturing tools and vessels
UNITED STATES		
El Paso	NO	N/A
Kansas	NO	N/A
North Carolina	YES	History

Not all activities are successful while some activities are successful contingent upon certain factors. Program coordinators were asked which activities were a success based on the both the presenter's and the participant's point of view (Question #24a, see Appendix I). They were also asked what factors might have contributed to a lack of success (Question #24b, see Appendix I) (see Table 16). Hands-on activities (activities involving active participation by the student as opposed to lectures) were usually successful. In Canada, London Children's stated that letting the children take a basic understanding and apply it directly to an activity before moving to the next component was mostly successful. For the Yukon, atlatl construction and spear throwing were successful activities.

Cornwall found their stone axe manufacturing activity, flint knapping activity, pottery coiling, honey cake baking, rush bowl making, excavating, drawing/recording finds and the treasure hunt were successful. For North Carolina, the participants enjoyed snorkelling the most.

Table 16: Responses to Questions 24a: *What activities do you consider successful from both the presenter's viewpoint and the participant's?* & 24b: *Are there activities where success is contingent upon specific factors?*

Institution	Successful Activities	Factors That Affect Success
CANADA		
London Day	Excavations	Weather
London Weekend	Excavating with an archaeologist on a real site	Weather
London Children's	Any hands-on activities	Class size
St. Catharines	All	Time of year
Yukon	Simulation excavation Experimental activities	No response
UNITED KINGDOM		
Durham	No response	Weather
Coventry	Simulation excavation	Weather
Cornwall	Experimental activities	Weather
UNITED STATES		
El Paso	Artifact identification Survey Excavation	Weather Class size
Kansas	Real fieldwork	Weather Class size Funding available
North Carolina	Learning the history Snorkelling	No response

Activities that were successful based on certain factors were most often dependent on good weather. Seven (64%) programs found that the success of certain activities was directly related to

both cold and hot weather. Three programs (27%) found success was dependent on class size — if too few students signed up, they were often unable to offer the program. For example, London Children's needed at least five participants. Too many students could also be difficult to manage. At El Paso, groups of 20 or less worked out much better than large ones, especially in activities such as survey and excavation. St. Catharines found that the program's success in terms of enrolment depended on the time of year. Summer programs were always successful. Kansas found that the amount of funding available could often determine success.

All institutions have completed formal or informal internal reviews, and many have modified their programs as a result. The survey asked what unsuccessful components had been changed, as well as which were currently under revision (see Table 17). Almost all changes were related to the logistics of running the program, such as removing less popular activities (e.g. video or a recording station), adjusting timing of activities or expanding themes and age ranges. Half of the programs indicated no change.

Some current revisions are related to publicity and creating new themes to keep repeat participants interested. Several institutions also mentioned creating a teacher resource manual. US and UK programs are focusing their efforts on logistical issues within current programs such as timing of activities, eliminating certain activities and even eliminating the course fees. Cornwall's program coordinator stated the need to pay volunteers, as several participated this year as a favour to the coordinator but should be paid in the future.

In Canada, revision focuses more on expanding the program and/or program offerings at the institution. London, for example, is adding new themes, expanding the high school program, and creating resource manuals. St. Catharines is also creating a teacher resource manual.

Table 17: Past and current revisions to programs.

Institution	What Has Changed	Currently Under Revision
CANADA		
London Day	Nothing	New themes
London Weekend	Nothing	Getting the word out Expand the high school program Create teacher resource manuals for schools
London Children's	Include older campers and growing interests	
St. Catharines	Updated programs Changed individual crafts/activities Changed some camp policies	Create a teacher's manual for the archaeological outreach kit.
Yukon	Accented popular activities Eliminated less successful activities	Successful and unsuccessful components
UNITED KINGDOM		
Durham	No response	No response
Coventry	Nothing	No response
Cornwall	Eliminated less successful activities	Pay people to act as animators Bring stuff for recording, etc.
UNITED STATES		
El Paso	Eliminated less successful activities	Videos
Kansas	End of program Time frames Topics of the class Evening projects	Change the intro and concluding course content, partnerships, logistical problems to sort out
North Carolina	Length of class time and activities, Types of activities, fees.	None

vi. Community Involvement

The survey looked at how local communities were involved in the programs other than as participants (see Table 18). Nine programs (82%) involve local communities in some fashion. This usually entails guest speakers, educators and educational consultants who are invited to help instruct. Two museums also include local collectors. At London, involvement depends on the program. One example of their community involvement is that they invite local teachers to help test out new education programs or kits.

All but one program in Canada involved local communities. These communities include teachers, local collectors, board members and educational consultants. One program makes a point to include African-Canadian community members on their board and as guest speakers.

Two-thirds of the US programs involve local community members. They invite educators, professors, politicians, and indigenous and guest speakers. El Paso's program

...evolved out of the response we got for our teachers' guide. ... We have found many people with skills to share with children, like storytelling, weaving, etc., that we brought into this year's camp and that we plan to incorporate into our programs in the future (pers. comm., June 16, 2005).

In the UK, two-thirds of the programs involve communities, such as local archaeology societies, history societies, etc. They also include experimental archaeologists as presenters. For example, Durham's program coordinator stated:

This year we have done so [involvement of communities] quite specifically. There is an active local history society in the village which we targeted, but we also sought to bring in those who were not already involved. This was done through advertising and a very successful Open Day (pers. comm., November 7, 2005).

Table 18: Involvement of local communities in programs.

Institution	Local Communities	Who and in What Ways
CANADA		
London Day	YES	Teachers
London Weekend	YES	Teachers
London Children's	YES	Guest speakers from Museum of Archaeology Local collectors Board sub-committee members School board education consultants
St. Catharines	YES	African-Canadian Communities - acted as community consultants, sat on advisory board, provided oral history
Yukon	NO	
UNITED KINGDOM		
Durham	YES	Local history society Other local groups
Coventry	YES	Local archaeology group
Cornwall	YES	Local families Local experimental archaeologists Tourists
UNITED STATES		
El Paso	YES	Teachers Guest speakers
Kansas	YES	Professors Local historians Collectors Politicians Indigenous peoples Local residents
North Carolina	NO	

Children's archaeology programs can have unpredicted consequences, both positive and negative. Each institution was asked to identify some of the benefits and negative aspects they could see as a result of their program (see Table 19). Almost every program identified some major benefit. Over three-quarters of the programs (n=9/11, 82%) noted an increased awareness in history and/or archaeology. Two program coordinators (18%) thought the program encouraged the reporting of finds and discouraged pot hunting/looting. Two programs (18%) saw an increase of public involvement in archaeology/history projects. El Paso stated: "Hey, if we can keep one kid from becoming a pot hunter, we've done our job" (pers. comm., August, 3, 2005).

Table 19: Positive and negative aspects of programs.

Institution	Positive Aspects	Negative Aspects
CANADA		
London Day	Increased awareness and interest	None
London Weekend	Increased awareness and interest	None
London Children's	Increased awareness of new ideas and opportunities for their future	No response
St. Catharines	Increased awareness of the importance of not "looting"	None
Yukon	Increased interest in the natural world, birds, conservation, archaeology and palaeontology.	No response
UNITED KINGDOM		
Durham	Increased awareness of the historic environment	Increased digging
Coventry	N/A	None
Cornwall	Membership in Young Archaeologists Club, Encouraged metal detectorists to report finds and lets them know they are bound by laws	None
UNITED STATES		
El Paso	Increased awareness of archaeology, sites, and programs. Increased awareness of looting	None
Kansas	Increased awareness of archaeology Involvement of amateurs and professionals in other jobs	Increased digging
North Carolina	Increased awareness of archaeology Increased awareness of maritime history	No response

Only one negative aspect was identified. Kansas noted an increase in digging by local community members. They found that occasionally, the owner of the land on which the site was situated, had thought that once the archaeologists were finished, he/she could go in and dig. Durham stated that their program has led to an increase in the perception of the exoticness of archaeology,

which has been evidenced by a lot of interest recently from metal detectorists (see Addyman and Brodie 2003). This issue will be discussed further in Chapter IV.

vii. Indigenous Involvement

Thomas (2005) found that many Canadian programs had indigenous history and awareness as a learning objective, but few actually involved indigenous people in program development or delivery. In fact, 45% of the programs surveyed here involved indigenous people to some extent (see Table 20).

Table 20: Indigenous community involvement in programs.

Institution	Indigenous Community Involvement
CANADA	
London Day	NO
London Weekend	NO
London Children's	YES
St. Catharines	YES
Yukon	YES
UNITED KINGDOM	
Durham	NO
Coventry	NO
Cornwall	NO
UNITED STATES	
El Paso	YES
Kansas	YES
North Carolina	NO

In Canada, three of five programs currently involve First Nations. St. Catharines invites First Nations members from Niagara Regional Native Centre, while Yukon and London Children's indicated that they involve indigenous people but did not state who or in what ways. A member of the local First Nations used to come to London to tell stories and demonstrate how to make a medicine bundle, but this no longer occurs and reasons why were not provided. In the US, indigenous people are usually invited as story tellers, as in the case of El Paso: "The Storyteller is Delaware, a truly gifted storyteller, and I am honoured to say he is our finest volunteer," or as guest speakers such as at Kansas. In the UK, none of the institutions that responded include indigenous groups. This may be a

result of the different definitions of “indigenous.” A more detailed discussion of indigenous involvement in all three countries is included in Chapter IV.

viii. Advice

The final survey question asked program coordinators what advice they would give to someone developing a children’s program (see Question # 29). It provided an opportunity for program coordinators to offer their accumulated wisdom (see Table 21). The most common advice offered was to have hands-on activities and to keep it fun. Other advice was to be prepared, know the material, and keep it small. Archaeology, like history, is a broad topic. Keeping it small and connected to the student’s world is crucial. Kansas argued for using real artifacts and real sites, stating if students are treated like real workers, they will be good workers. However, Kansas quickly cautioned that this only applies to older students because younger students do not understand the significance of working on a real site. Kansas’ program coordinator also advised teaching and utilizing proper techniques and being very diligent about it. It is also ideal to find a stable funding source and to build support networks with teachers, school boards, professional archaeologists, etc. Additionally, El Paso advises:

You’ve got to keep the kids engaged and interested in what you are trying to teach them. Keep it fun. Archaeology is fun. Learning about past cultures is fun. We have to remember why we got into archaeology in the first place. So many of us got into archaeology because of something we saw or learned in a museum that made us stop and say ‘wow’. That is what we need to strive for. We need to capture the imaginations of these kids and create an experience that will make them say ‘wow’, just as we did (pers. comm. June 15, 2005).

Table 21: Advice of program coordinators.

Institution	Advice
CANADA	
London Day	Keep it fun and different in the summer than what they are learning in school. They will still learn lots of cool things; they just do not want to feel like they are learning.
London Weekend	The program is tailored to the needs of the participants. They want to learn – you are the facilitator.
London Children's	Check out support networks (www.eculturalresources.com or Archaeology in Education Service) Get to know school board's curriculum consultation and seek their help, Keep it real!
St. Catharines	Ensure there is lots of background information Staff and volunteers are well-prepared ahead of time.
Yukon	No response
UNITED KINGDOM	
Durham	Alternative activities for bad weather Split groups into smaller sections Have fun Let kids experience camaraderie of digging on site
Coventry	This is a family programme but it can fit to the curriculum with the same reasons as above
Cornwall	Test it on your kids!
UNITED STATES	
El Paso	Keep the kids engaged and interested Keep it fun Remember why we got into archaeology in the first place. Strive to show this to the kids Capture the imaginations of these kids and create an experience that will make them say "wow", just as we did.
Kansas	Don't be afraid to do real archaeology but need to have supervision and full range (classes, lab, field,) Fight against "archaeology is only digging" Remind them that the obligation doesn't end with digging, you have to follow through to reporting or don't do it, Kids can do about 4 hour stints, Treat like serious workers and they will be serious workers (not with little kids as they don't get it)
North Carolina	Make it as hands-on and similar to the real thing as possible. Get real archaeologists to help design or even run the program.

CHAPTER IV. Discussion and Conclusions

The purpose of this thesis was to provide data on current efforts to teach children archaeology and to provide an accessible information resource on: 1) funding, 2) staff, 3) learning objectives, 4) activities, 5) community, and 6) indigenous involvement for program coordinators to use in the development of a new program or to improve an existing program. The thesis had three objectives: 1) to identify the nature, scope, and patterns of children's public programming in Canada, the US and the UK, 2) to identify similarities and differences in programs, and 3) to determine the success of the programs. The programs discussed in this study represent 45% of those who responded to the in-depth survey, and provide a snapshot of trends and patterns both within and between countries.

The in-depth survey results indicate that a wide range of programs with unique opportunities and aspects are available. Given that programming is diverse, open-ended questions, while beneficial by not "steering" the answers, can create difficulties in data analysis. Open-ended questions were used here to obtain as accurate a picture as possible, but the responses indicated that many questions were answered from different perspectives, thus making detailed comparisons challenging.

Understanding the similarities and differences of programs will lead to a better appreciation of the nature and scope of public programs. While each institution varies in location, size, and objectives, there are patterns in the program activities and problems faced, such as the issue of simulation/real excavation and the methods used to keep children actively engaged. Almost all programs utilized some form of excavation and almost all included other discipline-based activities. The majority of programs that offered a simulation excavation also offered a wider range of other activities, such as experimental activities and crafts. I think the main reason this occurs is that excavating a simulation site does not require the same care and follow-up activities of actual excavation. Therefore, there may be more time available for other activities. A second reason is that the age of participants affects the kinds of activities in which they can effectively engage. Younger children are not able to easily stay engaged in long projects/activities, nor do they have the responsibility level for actual excavation. Therefore, a wider range of activities must be employed to

maintain the level of interest in younger children. Since all of these programs take place during children's free time (the weekend, summer vacation, mid-semester break, etc.), participants do not want to be sitting in a classroom as if at school, so program coordinators must find ways to make the experience different.

Differences arise in community involvement, funding and program cost, and indigenous involvement. Community involvement varies by country and could be a result of the location of the program. Programs offered in rural areas involve community groups from that area (such as Kansas which invites local residents to come for evenings to learn about the research), whereas programs in more populated locales involve a wider range of local community groups such as politicians and educators.

History of the country may also have a role in the type of community involvement. The UK focuses their efforts on including members of local societies such as historical and archaeology societies as participants and sometimes guest speakers. I think this is a result of the longer presence of these societies in the UK that are more active in the archaeological community. As Fagan (1984:181) notes "Amateurs are respected members of the archaeological community in Great Britain and elsewhere, but we tend to distrust them as potential pothunters and often treat even committed enthusiasts as minor pariahs." While the definition of amateurs in this sense varies, I argue that local societies or archaeology groups are mainly comprised of amateurs and therefore Fagan's comment is applicable here. All three UK programs surveyed involve local societies or archaeology groups. In contrast, programs in Canada and the US involve more varied community groups and only Kansas' program includes amateurs. Perhaps because historical societies are not as much a part of the archaeology community in Canada and the US as they are in the UK, the focus is on educators, politicians, and advisors/consultants.

There are also differences in funding and program cost. The in-depth survey shows that while most programs have used some form of institutional budget for program creation, there are other options to supplement and maintain the program. Several institutions have utilized grants and

government and private partnerships to sustain the programs financially. Additionally, by complementing a few full-time senior staff with other program instructors (such as volunteers, amateurs, and university students), many institutions were able to keep both operating costs and program fees low in addition to providing valuable experiences for future program coordinators. Over three decades ago, McGimsey (1972:19) argued for:

... the necessity for full-time practicing profession[s] to cultivate and enlist the aid of the part-time amateur in arousing the general public. Not only can the amateur himself make a valuable scientific contribution but he provides as well the sole sure route to effective public and financial support.

Obtaining start-up funds is a major part of public programs, but finding ways to sustain the program is also necessary for continual success. Two programs (St. Catharines and London Day) were able to rely solely on program fees to support their program while one program became embedded in the institution's budget. Both outcomes serve to encourage the longevity of the program. Two different programs (Yukon and Kansas) found ways to diversify their funding options rather than just relying on institution budgets.

One of the thesis objectives was to assess if these programs are successful. Success is measured on perceived benefits and/or negative consequences, whether or not institutions are meeting their learning objectives, and whether they can maintain staff and monetary resources to continue and/or expand the program.

Program coordinators indicated that learning objectives were being met for the most part. Several coordinators mentioned objectives that needed to be emphasized more but none provided examples when it came to aspects of the program they were revising. Success of learning objectives can also be measured in observable benefits relative to perceived negative consequences, such as increased pothunting. Do the benefits outweigh the consequences? Overall, there are many more observable benefits to these programs, such as increased awareness in archaeology and the importance of reporting finds. Only two program coordinators noted a single negative aspect that contradicted their original program goals. Smardz (1991), Smardz and Smith (2000) argued that

children's programs were the answer to creating better educated children and therefore would reduce the amount of looting/pothunting. While this is the case for some museums such as Cornwall and St. Catharines, others such as Durham and Kansas thought they were causing a potential increase in looting. Durham noted an increase in the interest of metal detectorists, which I believe indicates an increase in digging. Kansas found landowners occasionally dug the site after the program finished. This outcome may have been the trigger for Kansas' shift in learning objectives to more emphasis on stewardship.

Kansas' success is also demonstrated by their long-term involvement of participants. They are able to call upon past participants at other times of the year for lab work, and they can ask participants to record sites in their own community and report back to the museum. They find they often get participants for life. The participants start as children and come back year after year and some even continue on to university to get a degree in archaeology. Kansas can also count on past participants to write articles for the *Kansas Historical Society Journal*.

Despite indications from the pilot survey that a number of programs in all three countries have been cancelled due to lack of resources/staff (n=7), the creation of many new programs is an encouraging trend for the future of public archaeology. The in-depth survey indicates many museums are increasing the number of program themes and creating specific programs for different age groups or for repeat participants. Four of the 11 programs were created since 2000, compared with four created in the 1990s, one in the 1980s and two in the 1970s. Factors such as the push for stronger legislation, the increased availability of funding sources, and the growing awareness of increased looting/destruction may have contributed to the rise in programs created in the 1990s/2000s.

Despite several major acts of US legislation, passed in the 1960s and 1970s (e.g. National Environmental Policy Act of 1969, Archaeological and Historic Preservation Act of 1974, Archaeology Resources Protection Act of 1979) to protect archaeological sites and resources, a 1988 US Congressional report that revealed 90% of known archaeological sites in the Southwest had been looted (Jameson 2004:39). Further, that same year, the National Park Service reported that 50% of all

sites in the US had been looted (Jameson 2004:39). By the late 1980s/early 1990s, Jameson (2004:50) notes, "the archaeology profession in America came to realize that it could no longer afford to be detached from mechanisms and programs that attempt to convey archaeological information to the lay public." Despite the high profile given to the statistics on destruction, it is surprising that not one of the US programs discussed here was created during the period from 1990-2004.

In Canada, the 1970s was a period of growth of federally sponsored programs and an increase in jobs for archaeologists outside of traditional academia (Simonsen 2004). However, during the 1980s, many of the federal programs were cancelled, yet by this time public interest in archaeology was firmly established (Lea and Smardz 2000:144). As a result, many archaeologists in Canada were forced to seek private funds and to be accountable for what public funding they did receive (Lea and Smardz 2000:144). Combined with rising site destruction, it became evident that "the public needed to be educated in the goals and benefits of archaeological stewardship" (Lea and Smardz 2000:144). In 1994, Parks Canada issued their Guiding Principles and Operational Policies. Section 4 states:

The provision of accurate, comprehensive and timely information is important in fostering awareness, appreciation, appropriate use and understanding and in encouraging public involvement and stewardship. This is achieved through such means as interpretation, communication, outreach, environmental education, citizenship, and public participation programs... (Canada 1994:17).

In addition, by the mid 1990s, the Canadian Archaeological Association adopted several goals to promote the distribution of archaeological knowledge and in 1999, formally adopted a public education and outreach mandate (Lea and Smardz 2000:143). Four key objectives of the mandate were: 1) to communicate the results of archaeological work to a broad audience; 2) to encourage the public to support and be involved in archaeological stewardship; 3) to promote public interest in, and knowledge of, Canada's past; and 4) to explain appropriate archaeological methods and techniques to interested people (Canadian Archaeological Association 1999). This shift in attitude of Canadian archaeologists away from solely academia, may have led to more public programs in order to meet these objectives.

In 1989, the Society for American Archaeology held a working conference called "Save the Past for the Future" which led to the creation of the Public Education Committee (PEC), comprised of Canadian as well as American archaeologists (Friedman 2000:14). The PEC's purpose was "to reach larger audiences through projects that promote understanding of and respect for other cultures and encourage preservation of heritage resources" (Society for American Archaeology 2004) in both Canada and the US. This is accomplished through classes, archaeological parks, museums, workshops and other public programs.

In the UK, the rise of programs in the 1990s-2000s may be a result of the increasing popularity of National Archaeology Week and the greater availability of grant funds. Two of the three UK programs were created to take part in National Archaeology Week, which began as National Archaeology Day and over time was expanded to one week. The third program received its start-up grant from the National Lottery Grant Scheme, created in 1994 (The National Lottery 2006).

Maintaining staff and participant numbers is critical to long-term program sustainability. Almost all programs were able to maintain or increase their staff and participants, and only two programs decreased staff numbers. For Durham, the number of participants increased, thus the program should be considered successful. For the other program (London Day), information regarding the decrease along with current student numbers was not provided, therefore, success based on maintaining staff members is indeterminable. While longevity can certainly be used to determine success for three of the programs (those created in the 1970s-1980s), it is too early to gauge the success of the programs created in the 1990s-2000s.

While some coordinators may cringe at the thought of putting real archaeology in the hands of children by offering an actual excavation, others have found this "real" aspect makes the programs successful. Given that the two most common learning objectives stated are appreciation of the past and teaching archaeology as a discipline, involving children directly in research meets both of these objectives effectively, which Johnson (2000) argued should be the objective of children's archaeology programming. Children can gain a lot from the experience. As Smardz (1991:135) writes:

... With archaeology, educators have a unique opportunity to involve ordinary people and even school children in the actual process of scientific and cultural research. Students can not only see the various methods of discovery in operation, but they can reach out and touch artifacts, hearths, layers, and postmolds. Participants can experience their texture, their scent, color and weight for themselves. They can be the first humans to handle an object since it was left behind in the earth, a hundred or a thousand years ago. They can actually touch the past.

Kansas, one of the longest running programs in this survey, not only employed this method, but also utilized amateurs in program delivery, and has remained successful.

Given the lack of an explicit definition of "indigenous" in the open-ended survey questions, meaningful comparisons between the UK and Canada/US are difficult to make. The questions intentionally left "indigenous" vague to allow program coordinators to answer based on their own definitions. However, the responses indicate that UK coordinators have very different ideas compared to Canada and the US of what constitutes "indigenous." Therefore, the UK responses relating to this issue have been excluded from this discussion. In the future, providing a definition such as "native peoples" might provide more control and an opportunity for international comparison. Since Canada and the US both have colonial histories, they share similar concepts of what "indigenous" means in a North American context and as a result, a comparison is more relevant. It is also logical to assume the programs in these two countries would have similar levels of indigenous involvement. In contrast to Thomas (2005), this study shows the involvement of indigenous groups is greater than originally thought. Thomas (2005) found that very few Canadian programs involved First Nations and that indigenous awareness as a learning objective had declined over time, despite repeated calls in the literature and in professional societies for indigenous participation. This thesis revealed that more programs are involving indigenous groups than not, and that indigenous awareness is more of a focus. Details on indigenous group involvement were scarce but respondents stated that indigenous people were usually invited as guest speakers, storytellers or participants. There was no direct indication in either country of indigenous involvement in program development, a similar finding to Thomas (2005).

Survey data regarding indigenous groups was conflicting as often what was stated as the “ideal” situation (e.g., ranking of teaching and learning objectives) was not put into practice (e.g., actual involvement) (see Tables 22 and 23). Only two institutions (both in Canada) that stated indigenous awareness as an objective actually involved indigenous groups. Two institutions (one in Canada and one in the US) ranked teaching indigenous awareness with the highest possible value, yet it was not listed as a learning objective. However, over half of the programs that did not indicate indigenous awareness as a learning objective did involve groups in some fashion (see Table 22).

Table 22: Indigenous involvement compared with indigenous awareness as a learning objective for US and Canada programs combined.

		Indigenous Involvement		
		YES	NO	TOTAL
Indigenous Awareness as a Learning Objective	YES	2	0	2
	NO	3	2	5
	TOTAL	5	2	7

In Canada, teaching indigenous awareness was the most important learning objective (avg. rank 4.00), yet actual involvement ranked lower (avg. 3.75) (see Table 23). At London, both indigenous awareness and involvement both ranked high, yet the institution did not involve any indigenous communities, nor was indigenous history listed as a learning objective. In contrast, London Children’s ranked involving indigenous communities with a low value but they were involved in the program.

In the US, indigenous awareness was not identified as a learning objective and average ranks for indigenous awareness (avg. 3.30) and involvement (avg. 3.50) are lower than Canada, yet two-thirds of the programs involve indigenous communities. Like London, El Paso ranked teaching indigenous awareness high, but it was not actually taught as a learning objective. This leads one to question: is this lack of indigenous awareness as a learning objective a result of the museums’ current protocols toward indigenous groups, or a lack on the part of the program? In other words, if standard operating procedure is to teach indigenous awareness in any program dealing with indigenous groups, then is it necessary to state it as a separate learning objective? London is situated on a major

archaeological site that plays a large part in their public programs. El Paso did not include indigenous awareness in the survey response but their website states a focus of the program (Archaeology Day Camp 2006) is on local indigenous populations and they also included cultural awareness as a learning objective. Therefore, involving the traditional indigenous owners and teaching indigenous awareness may be part of the everyday practices of these programs and therefore, they did not feel it necessary to identify learning objectives and involvement separately. This could be answered by wording the survey question to include this option, or by including a separate question that asks program coordinators to identify general practices of the institution. While both countries indicated involvement of indigenous groups, the “ideal” situation (e.g., learning objectives, importance of teaching objectives, etc.) often differs from actual involvement. Further research is needed to provide more clarity.

Table 23: Indigenous involvement compared to learning objectives and teaching indigenous awareness.

Institution	Indigenous Awareness as a Learning Objective	Indigenous Community Involvement	Teaching Indigenous Awareness	Involving Indigenous Communities
CANADA				
London	NO	NO	5	4
London Children's	NO	YES	3	2
St. Catharines	YES	YES	5	5
Yukon	YES	YES	3	4
UNITED STATES				
El Paso	NO	YES	5	4
Kansas	NO	YES	2	3
North Carolina	NO	NO	3	N/A

As with any initial research, more questions are raised than answered and these provide the foundation for future research. Future researchers might first ask program coordinators what they would like to know about other programs. Those who run programs every year are likely to have different questions and topics of interest and concern. For instance, they might want to know if other institutions have had similar problems (such as increased looting) and how they dealt with and/or solved such problems.

A number of articles and books have been published about the need for public involvement in archaeology and especially the importance of involving children. Some have highlighted unique programs or events, but few have done a comparative study of programs (Smardz Frost 2004, Thomas 2005). This thesis adds to the small but growing body of literature (e.g., Smith and Ehrenhard 1991, Jameson 1997, Smardz and Smith 2000, Zimmerman 2003) started by McGimsey, Fagan, and Lipe about public programs that is available to archaeologists and educators. It is a first step in both understanding the current state of affairs and in providing possible options for expansion and improvement of public archaeology in Canada, the US and the UK. It is in these programs that the future of archaeology lies. Johnson (2000:78) reminds us that “[a]s future taxpayers, jury members, outdoor recreators, land owners, consumers, and philanthropists, today’s students need a firm ground in the issues confronting the discipline of archaeology, so that they can act responsibly and thoughtfully.” These programs have answered the call to train future citizens. This thesis assists in future endeavours.

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APPENDIX I - In-Depth Survey Questions

Survey of Children's Archaeology Programming in Selected Canadian, American and British Museums

Introduction:

1. What is your target audience and age group? Has this varied over time?
2. How long does the program run? (1 day, 1 week, etc.)
3. How often do you run the program? (every summer, twice a year, etc.)
4. What fee do you charge per student? What does the cost include? (e.g. lunch, t-shirt, etc.)

History:

5. What year did your program begin?
6. How and why was your program started?
- 7a. How was the program initially funded?
7b. How is it currently funded?
- 8a. How many participants (campers) did you initially have?
8b. How many staff did you initially have?
8c. How many participants do you currently have?
8d. How many staff do you currently have?
9. What is the teacher/participant ratio? Has this changed over time?

Administration:

10. How many students are in each program session?
- 11a. Who teaches the sessions? (e.g. volunteers, professionals, etc.)
11b. What is the highest academic degree of staff members? In what area?
11c. What additional experience do you and your staff have?
11d. What kind of formal and informal training does your institution give to your instructors/presenters?
12. How do you advertise the program?

Content:

13. What are your key learning objectives? (e.g. conservation, history, archaeology as a discipline, knowledge of the past, indigenous awareness, etc.)
14. Have your learning objectives changed over time? If so, why?
15. On a scale of 1-5 with 5 being the most important, how important is.....
 - a. teaching conservation of archaeological material and the archaeological record?
 - b. teaching archaeology as a discipline?
 - c. teaching indigenous awareness?
 - d. involving indigenous or local communities in your program development and delivery?
16. What activities do you carry out? (e.g. hands-on such as crafts, simulation dig, survey, etc; demonstrations, lectures?) Could you provide a copy of your curriculum?
17. Have you changed any activities? And if so, why?
18. Do you invite guest speakers/indigenous peoples /politicians, etc.?
19. Do you involve local communities in your program? If so, who are they and how are they involved?
20. Does your program correspond with your local school curriculum? If so, in what ways?

Program Evaluation:

- 21a. Have you done a program evaluation?

- 21b. If yes, what form did this take? (e.g. end of program evaluation of past-participants, parents of participants, staff members, internal review, etc)
- 21c. Could you supply a copy of your evaluation questionnaire and/or your results?
22. What have you changed as a result of the evaluation(s)?
23. What aspects of the program are you currently reviewing/revising?
- 24a. What activities do you consider successful from both the presenter's viewpoint and the participant's?
- 24b. Are there activities where success is contingent upon specific factors (such as what time of year the course is offered, the number of children present, etc)? Can you describe these (the activities and the factors)?
- 24c. What activities would you choose not to use again and why?
25. What messages or learning objectives would you like to emphasize more?
26. How has this program been received by the public/community?
27. What are some of the benefits you have been able to see in the local community or archaeological community as a result of your program?
28. What, if any, are some of the negative factors have you been able to see in the local community or archaeological community as a result of your program? (e.g. increased pothunting)
29. Based on your experience, what advice would you give to anyone who is developing an archaeology program for school children?